

THE MEDICAL BULLETIN:

A MONTHLY JOURNAL OF

MEDICINE AND SURGERY.

VOL. XII.

PHILADELPHIA, JUNE, 1890.

No. 6.

ORIGINAL COMMUNICATIONS.

NOTES ON PHARMACOLOGY. ACONITE.*

By WILLIAM MURRELL, M.D., F.R.C.P.

I.—INTRODUCTION.

BY aconite we mean the root, fresh leaves, and flowering tops of *Aconitum napellus*, the common monk's-hood, wolf's-bane, or blue rocket. It grows wild in many parts of Europe, and in this country is so generally cultivated for ornamental purposes that it is met with in almost every cottage garden. The root somewhat resembles that of the horse-radish, and is frequently eaten with roast-beef with fatal consequences.

Aconite is the *axóniton* of the Greeks and the *aconitum* of the Romans. It was well known to the ancients, who regarded it as the most virulent of all poisons, and attributed its origin to Hecate, who, they declared, caused it to spring from the many-headed dog, Cerberus. It is supposed to have been the chief ingredient in the poison-cup mixed by Medea for Theseus. It was used in the Island of Ceos to carry out the law which condemned to death all who were no longer useful to the State or able to defend themselves. It was long employed as an arrow-poison, both by the Chinese and the less civilized of the hill tribes of India. The celebrated Baron Störck, of Vienna, introduced aconite into medical practice in 1762, and Fleming's essay on its physiologi-

cal action and therapeutic uses—to which the Senatus Academicus of Edinburgh awarded the gold medal—did much to bring it into note. Schmiedeberg says, "The rather numerous empirical indications for the application of aconite given in past times have, for the present, been entirely given up in Germany," and adds that it can now be considered without hesitation as an obsolete remedy. This may be true of Germany, but it is not of England, where it has been steadily increasing in favor, and is regarded by our best clinical observers as one of the most valuable remedies at their disposal.

II.—ACTIVE PRINCIPLES.

The active principle of aconite is usually said to be aconitina or aconitine, formerly known as aconitia. It is an alkaloid obtained not only from *Aconitum napellus*, but from other species of aconite. It is met with in white, generally amorphous, irregular lumps, but may be obtained in acicular crystals. It is soluble in 4000 parts of water, in ether, dilute acids, and rectified spirits. Like other alkaloids, it forms salts with acids. Another principle is described under the name of napelline, and there is an acid called aconitic acid.

Considerable doubt still exists as to the meaning which should be attached to the word aconitina.* Commercial aconitine is not a simple substance, but is a mixture of several alkaloids. Binz, of Bonn, at the International Medical Congress held in London in 1881, stated that there was no definite chemical compound sold under the name of aconitina, the various preparations obtainable in

* Abstract of a lecture delivered to the First-Year Students in the Course of Materia Medica at the Westminster Hospital, London.

* Murrell, British Medical Journal, 1882, vol. i, p. 555.

England, France, Switzerland, and Germany differing so much in character and composition that any results obtained by experimenting with them were applicable only to the particular sample employed, and not to aconitina in general. Flückiger and Hanbury, in their Pharmacographia, state that commercial aconitina is a mixture of aconitina, pseudaconitina, picraconitina, and other substances. Wright apparently recognizes three alkaloids obtained from different species of aconite,—aconitina from *Aconitum napellus*, pseudaconitina from *Aconitum ferox*, and japaconitina from one or more Japanese species. It is doubtful whether our aconitina is obtained from *Aconitum napellus*, from *Aconitum paniculatum* (which both Fleming and Christison found to be inert), from *Aconitum ferox* (the Bish poison), or from the Japanese species. The statement contained in the British Pharmacopœia respecting the origin of the alkaloid must be accepted for what it is worth, but in reality we do not know whether our aconitine is aconitine proper or pseudaconitine or japaconitine, or a mixture of all three. Cleaver and Williams stated at the Pharmaceutical Society that extract of aconitine was frequently made from *Aconitum paniculatum*. Mr. Holmes found that a large proportion of the aconite-root sold as *Aconitum napellus* was, in reality, Japanese aconite, and he stated that *Aconitum ferox* was often employed in this country in the preparation of the alkaloid.

It is generally considered that the English aconitine is at least seventeen times as active as the German, the French being intermediate in power; but this classification into English, French, and German is clearly unreliable and unscientific. Professor Pflugge, of Gröningen, investigated the physiological action of seven different kinds of aconitine, and considered that they might be arranged in the following order of increasing activity: (1) Friedländer (Trommsdorf, of Erfurt); (2) Schuchart; (3) Merck, of Darmstadt; (4) Hopkin and Williams; (5) Hottot, of Paris; (6) Morson; (7) Petit.

The list is obviously incomplete, no mention being made of Duquesnel's crystallized aconitine, which is said to be more active than any of the amorphous varieties. Pflugge finds that Merck's aconitine is from twenty to thirty times as active as that of Friedländer, whilst Petit's is eight times as active as Merck's. It

must be remembered that this is not a mere matter of curiosity, but is of considerable practical importance, several cases of poisoning having occurred from the substitution of one kind of aconitine for another. Desnos records the case of a gentleman, the subject of aortic disease, who suffered from severe anginal attacks. With the view of affording him relief, his medical advisers prescribed Hottot's granules of aconitine. The chemist to whom the prescription was taken substituted, for the special aconitine which had been ordered, an aconitine which he happened to have in stock, the source of which was not known, but which was probably of German origin. Gradually, by the advice of the physicians, the dose was increased to four granules a day. The quantity was taken daily several days, with marked relief to the anginal attack and without producing any bad symptoms. At last the chemist, having exhausted his original stock, went to Hottot's for a further supply. On the following day the patient, after taking the usual number of granules, which, unknown to him, had been prepared with the new aconitine, suddenly presented alarming symptoms of poisoning: pains in the head, vertigo, loss of voice, great muscular weakness, pallor of the face, anxiety, weakness of the pulse, failure of the heart's action, a tendency to fainting, coldness of the extremities, and profuse perspiration. The respiration was feeble, irregular, short, and sighing. The patient was, in fact, in a most critical condition, and it was many hours before he was out of danger. In another case, investigated by Pflugge and Huising, the patient was killed outright by the substitution of Petit's nitrate of aconitina for Friedländer's, which the physician had intended to prescribe, but had neglected specifically to indicate. In Germany, Busscher has recorded 3 cases of poisoning by French aconitine. In 1 case, which terminated fatally, the dose was prescribed by a physician who was under the impression that the French and German aconitines were identical.

III.—PREPARATIONS.

There are two preparations for internal administration and two for external use. They are:—

1. Extractum aconiti—extract of aconite.
2. Tinctura aconiti—tincture of aconite.
3. Linimentum aconiti—liniment of aconite.

4. *Unguentum aconitinæ*—ointment of aconitine.

The extract consists of the fresh juice reduced to the condition of a solid by evaporation. It is a green extract, and is prepared from the green parts of the plant, the leaves, and flowering tops. It is an unreliable preparation, and is not much used.

The tincture is prepared from the root, and its strength is about one in eight. The dose, as given in the *Pharmacopœia*, is from 5 to 15 minims, but this is too much. In practice, $\frac{1}{2}$ drachm is added to 4 ounces of water, and of this mixture a teaspoonful is given every quarter of an hour for an hour, and subsequently hourly for six hours, or until the acute symptoms are relieved. It can also be obtained in the form of tabloids, each containing 1 drop of the tincture, but these are not official. The old Fleming's tincture is about six times as strong as the tincture of the *Pharmacopœia*. Drop by drop it is as poisonous as prussic acid.

The liniment is a fairly good preparation and contains camphor.

The ointment is a preparation, not of aconite, but of its alkaloid, aconitine. It is called *unguentum aconitinæ*, and not *unguentum aconiti*. It rapidly produces tingling and numbness of the parts into which it is rubbed. The patient should be told to use a piece not larger than a small bean. Care must be taken not to rub it into the eyes or mouth and to avoid abraded surfaces, or enough may be absorbed to produce constitutional symptoms. It is an expensive preparation and should not be prescribed *ad libitum*.

IV.—PHYSIOLOGICAL ACTION OF ACONITE.

1. *General Effects on Man*.—Given internally, aconite induces a warm and pungent sensation in the parts with which it comes in contact. Tingling of the lips and tongue is soon perceived; the tongue and uvula feel as if swollen, and deglutition is performed frequently. A large dose induces tingling and numbness of the whole body, accompanied by diminished sensibility and muscular weakness. The most sensitive parts are affected first, the tongue and lips, the tips of the fingers, the perinæum, the breasts, the abdomen, and lastly the back. There is great dyspnoea, and breathing is shallow and labored. The dyspnoea depends, to a considerable extent, upon the feebleness of the circulation and the consequent

imperfect nutrition of the nerve-centres. The skin is cold and covered with profuse sweat. The countenance is anxious and sunken, and the eyes are protruded. These symptoms are due to the effects of imperfect respiration. The pupils are dilated, but when there are convulsions they may be contracted. The temperature falls 2° F. or more, and there may be rigors or convulsions. Death often occurs suddenly, especially after some movement or exertion, such as sitting up in bed. Delirium may be observed, but usually the mind is clear to the last. Muscular weakness is always a prominent symptom, and blindness, deafness, and loss of speech are not uncommon as the case approaches a fatal termination.

2. *Action on the Heart*.—Moderate doses of aconite reduce the number of the heart's pulsations, which may fall even to 40 in the minute. Large doses often temporarily increase the frequency of the heart's beat, but in either case the pulse becomes weak and irregular. The topical application of a solution of aconitine to a frog's heart arrests it in diastole. The large, distended black heart of aconite is characteristic, and presents a marked contrast to the small, pale, firmly-contracted heart of *digitalis*. Aconitine produces this effect on the extirpated heart of a frog, and also when the pneumogastrics are paralyzed by atropine or cut, showing that it acts either on the muscular substance of the heart itself or on its motor ganglia. It is thought that, in addition, in mammals it acts upon the vagus roots in the medulla. Experiments have shown* that aconite is a general protoplasmic poison, affecting all the structures of the heart in the order of their development: first, its ganglia; then its nerves; and, lastly, its muscular substance. Aconite lowers arterial pressure, and, as it does not affect the vasomotor centre or nerves, this is evidently due to the action of the heart.

3. *Action on Respiration*.—Moderate doses slow the breathing, but large and poisonous doses often make it short and hurried. This action is probably due to the direct action of the drug on the respiratory centre, aided by its indirect action in weakening the circulation.

4. *Action on the Nervous System*.—Aconite, being a protoplasmic poison, destroys the func-

* The Action of Aconitia on the Nervous and Muscular System of Frogs. Ringer and Murrell, *Journal of Physiology*, vol. No. 4.

tions of all the nitrogenous tissues: first, of the central nervous system; next, of the nerves; and, finally, of the muscles. It has, moreover, a special affinity for the sensory nerves. On painting a frog's legs with a strong solution of aconitina the different nerves are paralyzed, so that on pinching the leg no movement is excited, although the animal can hop about as actively as ever.

5. *Action on the Muscles.*—As aconite is a general protoplasmic poison, the muscular suffers in conjunction with the other tissues. The heart-muscle is affected, for, after death, it fails to respond to electrical stimulation.

6. *Action on the Skin.*—In frogs poisoned with aconite a peculiar frothy condition of the skin is noticed. Sometimes the froth is so abundant that it completely covers the animal. This condition is not produced by any other drug—not even by pilocarpine. It is quite distinct from the desquamation due to arsenic.

THE USE OF THE GALVANIC CURRENT AS A LAXATIVE.

By JOHN V. SHOEMAKER, A.M., M.D.,
PHILADELPHIA.

B RILLAT SAVARIN well remarks, among the aphorisms with which he prefaces his "Physiologie du Goût," that the discovery of a new dish contributes more to the happiness of mankind than does the discovery of a new star. The physician may add that all such discovery is in vain in the pursuit and sum of human happiness unless good digestion abides with us and constipation keeps aloof. Shakespeare might, if it had been in accordance with the proprieties, have truly added to his phrase, "Now, good Digestion, wait on Appetite," another line, "and pleasant defecation follow both."

Old, new, excellent dishes, of whichever kind, are generally "vanity and vexation of spirit" if the consummation of all eating be not easy, regular, and attended with a species of satisfaction approaching pleasure. It would seem, at first glance, as if appetite and good digestion must always imply ease of defecation; and yet, although that is generally so, physicians know that there are individuals who enjoy life-long keenness of appetite and good digestion, and nevertheless tend to be constipated. The general rule, however, is, as indicated, that excellence in these conditions is associated: that absence of co ordination of

even the last with the other signifies malaise and ill health.

In considering the cases of those persons who have good appetite and digestion, and yet tend to be constipated all their lives, and those of persons who experience only occasional attacks of constipation, we may add to them in lesser degree those of every man, woman, and child of civilized life; for the consideration of the subject brings us face to face with the conclusion that that particular life it is which is chiefly responsible for lowering the activity of the defecating function. Habits of body are formed by neglect as well as by practice. No longer ago than fifty years school-girls had to be counseled that it was no evidence of feminine delicacy to neglect the ordinances of nature in this respect. Children of both sexes even at the present day are not generally taught that the most important hygienic duty of the day is to void the bowels. Men and women of the lower classes have no such rule of conduct. Habits come upon them; they do not seek to acquire habits, do not even know that bodily habits can be acquired. It is only when we come to the really educated in any civilized community that we find, outside of professional medical life, any appreciation of the importance of daily and copious defecation. And, at best, among all classes in civilized countries, such is the general life relating to food and exercise and general habits of living, and such are the exigencies of that life, that irregularity in attempts at defecation tends to degenerate into the confirmed habit of constipation.

The conditions of civilization, pure and simple, are not, it will be observed, wholly responsible for this state of things; nor, it will be equally clearly seen, are they innocent of the responsibility, and hence instruction must have some effect in remedying the evil. Civilization prescribes that no one can normally defecate more than once every twenty-four hours, and that at a particular moment of the twenty-four hours. Hence, as that moment may be urgent for some other direction of energy, the other direction is often taken without positive necessity, and by so much every time this happens is the habit of defecation with ease lessened. That the conditions of civilized life have much to answer for in leading to neglect the regular defecation is readily to be seen if one, going from it to a life of mountains and woods, with

plenty of mental and bodily employment, ravenous appetite, and constant opportunity for immediate relief of the bowels, will note all his change of habits. He will find that he will often have a natural passage twice in twenty-four hours, instead of the single one which civilization has at best decreed for that space of time. There may not be, and often are not, indeed generally not, any restraining influences amid the wilds. Time and place generally are propitious. Nature asserts herself without restraint, and reverts to her ancient promptings and ways. There is not a well-bred dog living in the heart of our civilization which does not first relieve himself before he is in the right spirit for his gambols; and he, like his master, and even more than his master, suffers from constipation, because, even more than his master, he is, when housed, constrained to habits of retention leading to constipation.

Enough has been said to indicate that constipation is generally an acquired habit in the individual. If we chose to go back to heredity, we shall find it to be always an acquired habit. It is an inherited defect of civilization. Still, even under the conditions which cannot be escaped, much may be done to ameliorate the evil. Proper teachings in early youth give opportunity for development into healthful practice in later days, unremitting in intention to return to that which, however broken up for a time, should be sedulously practiced until the habit is resumed.

The habit of chronic constipation, often superinduced by early and late neglect, leads through life to the abuse of cathartics, aperients, and enemas. There was a time, which I believe has now passed, when women were largely addicted to the taking of daily enemas with the view of improving the complexion. Nothing that the enema, however, could accomplish but would have been equally well secured by a natural evacuation of the bowels. The daily use of the enema was nothing but a tacit confession that there was a serious absence in the individual of proper peristaltic movement of the intestines. The practice did not tend to restore healthy function any more than a cathartic or an aperient tends to restore it; quite the contrary, as every physician knows. All these means are temporary with relation to benefit. Exercise, food, massage, look further—to the relief of constipation through the establishment of habit.

There is no true basis for the comparison of cathartics and aperients with enemas, as producing passage of the bowels. There is, however, a strong similarity between ordinary massage and treatment by the faradic current; for whatever additionally the faradic current may effect, it certainly executes massage of the most searching kind, and we find it capable, in all probability on this account chiefly, of stimulating the bowels, through percutaneous administration, to healthy peristaltic action. Here we have electro massage as against ordinary massage, and, as being both massage, even if one includes other effects besides those derived from massage, they are comparable. But what shall we say of the effect of the continuous galvanic current on the bowels? That it has such an effect, that that effect is not owing in any degree to property as massage, I shall not pause to discuss, for the statement that it has no property as massage no one will dispute.

Through treatment of prostatitis, prostaticorrhœa, etc., I have been led, in conjunction with a coadjutor in the matter, to the discovery that the continuous galvanic current has, if administered as I shall describe, an immediate effect in loosening the bowels, which discovery may prove of therapeutic value in cases where treatment by cathartics, aperients, massage, or faradic electro-massage are contra indicated, or, if not contra-indicated, where they would not be so desirable as treatment by the continuous galvanic current.

In describing the mode of administering the constant current for loosening the bowels, I cannot do so well as to mention how the poles of the battery are placed in my present mode of treating enlarged prostate, etc., for it was through this, which I have now adopted in preference to the mode of adjustment which I had, in common with other practitioners, employed, that the effect of the continuous current upon the bowels was discovered. The intra-rectal rheophore, representing the negative pole, should be introduced to the usual distance in the rectum, and the patient should be allowed, with the sponge-covered rheophore, representing the positive pole, to adjust it from the front on the perinæum. Thus the prostate is directly attacked by the continuous current, which passes through and around it; whereas, when the indifferent pole is placed, as is usual, on the thigh, it causes the current to be deflected from

the true direction. Moreover, no physician can graduate a current to suit at all moments the sensitive mucous membrane of the rectum. The patient can, on the contrary, graduate it to the greatest nicety by means of more or less pressure on the rheophore, or by the temporary removal of the rheophore, making the current as nearly constant as anything that can be controlled by man. This mode of treating enlarged prostate, etc., is so simple and efficacious that I mention incidentally my intention to have constructed a simple apparatus to enable persons suffering from affections of the prostate, who are so situated as to be unable to receive professional treatment, to treat themselves satisfactorily.

This, then, the manipulation that I employ for treatment of prostatitis, etc, is the manipulation best adapted to treatment for loosening the bowels. The strength of the current should be about that of 1 milliampère, rather less than more, so that the patient will feel at first as if no current at all is passing. In the course of fifteen or twenty seconds, however, he will begin to feel it gradually rising from the cold of the olive-shaped rectal electrode to the warmth of the same object, gradually heated to a point of painless tolerance. The slowness of the increase, as well as its steadiness, seems to be a factor in the success of the result sought. Shock, or even abrupt transitions in the strength of the current, seem to be prejudicial to success. The perfect confidence of the patient, derived from the certainty that the process will be gradual, and cannot be startling at any point, conduces to the result. Every one knows how important undisturbed repose is to the successful evacuation of torpid bowels. In about a minute after the application of the current the sensation of desire to go to stool becomes manifest, and at the end of two minutes the average patient can generally be affected to the degree requisite to secure a pleasant passage. I think that this process can, by repetition, be made to have constitutional effects in the alleviation or removal of chronic constipation. Of this, however, I affirm nothing, but merely throw out the suggestion without assigning my reasons for thinking that the effect may be made more or less permanent.

Two phenomena attend the administration of the continuous current in the manner in which I have described. They seem to point to two at least of the efficient causes of the

chief effect observed: 1. Depending upon the position of the fæces, an unmistakable trickling in the rectum is perceived. 2. If the pole at the perinæum be quickly removed the sphincter of the anus forcibly contracts. The conclusion, therefore, is inevitable that, as to the first, a general discharge from the mucous membrane is stimulated, and, as to the second, that the whole of the rectum and the lower portion of the bowels are dilated, both superinduced conditions working to the desired result.

Although a divergence from the main purpose of this description, I should not omit incidentally to impress here the strongest evidence which has yet been adduced as to the differential action of the two poles in mucous membrane passages. It is becoming well known that in the urethra the negative pole dilates the passages, whereas the positive pole contracts it, and hence that the negative pole is the proper one for relief of stricture of the urethra. The rectal experiments of which I have spoken repeat this evidence with reference to the rectum and by means of a superlative test. I have said that when the intra-rectal negative electrode is in position in the rectum, and the moist sponge-covered positive electrode is in position on the perinæum, and the current is flowing, that if the latter rheophore be suddenly withdrawn the sphincter of the anus forcibly contracts. The rectum had, therefore, been dilated by the passage of the current to allow of the sphincter thus forcibly contracting. Now reverse the poles so that the electrode in the rectum shall become the positive pole and that on the perinæum shall become the negative pole, and the sphincter of the anus contracts when the negative pole on the perinæum is put into position, but remains perfectly quiescent when it is withdrawn: just the reverse of what is observable in the other situation of the poles, and showing that the positive pole contracts. Scientifically summarized, the effects referred to are that anode closure dilates and cathode closure contracts a mucous membrane channel.

If it be said that, as cathode closure produces contraction of the sphincter,—that is, that contraction of the sphincter takes place without previous passage of a current, and consequently without any previous dilatation of the rectum,—and if one be asked what evidence there can, therefore, be that, upon anode opening, which is also followed by sphincter contraction, there had been previous dilatation

of the rectum, the presentation of the difference between the cases is almost the answer to the objection. In the first case, the current not having been flowing, whatever contraction of the sphincter through cathode closure takes place must be to below the normal size of the sphincter and rectum. As there has been no action, there can be no reaction. On the contrary, in the second case, as the current has been and is flowing, and the contraction through anode opening is produced by breaking the current, it is obvious that whatever change takes place must be reaction, and as the sphincter contracts it must be apparent that the preceding action of the current had resulted in dilatation. The mucous discharge is in strict conformity with this action, inasmuch as parts secreting do not show increase of functional activity by contraction, but by expansion.

It is easy to be understood, then, that if the rectum is expanded by the passage of the continuous current through the presence there of the negative pole, and when at the same time the inner part of the lower bowel and the rectum is laved by a rapidly-secreted mucous discharge, that, independent of the dynamic effect of the current, it should, when so applied, produce discharge from the bowels, and the fact that it so operates has been distinctly proved. That, as I have said, the effects may tend to be permanent, no one who has tested the efficacy of electrical treatment in many directions will be indisposed to hope. Meanwhile, relying solely upon what has been thoroughly established as a fact, I shall patiently await the result of experience to show what are the limitations of the efficacy of the treatment herein described.

1519 WALNUT STREET.

THE GLYCERITE OF CALF-PEPSIN: A DESIRABLE ADDITION TO THE U. S. PHARMACOPŒIA.

By FRANK WOODBURY, A.M., M.D.,

Fellow of the College of Physicians of Philadelphia, Honorary Professor of Clinical Medicine in the Medico-Chirurgical College, etc.

IN the last revision of the Pharmacopœia (1880), the digestive principle of the gastric juice was introduced in the forms of (1) a powder with milk-sugar, Pepsinum Saccharatum, and (2) a solution of saccharated pepsin, with water, glycerin, and hydrochloric acid, an artificial gastric juice,—in fact, Liquor Pepsini. These preparations were those consid-

ered most eligible by Professor Scheffer, of Louisville, Ky., and were admitted largely in consequence of his able and earnest advocacy. In the same way, the Committee was led to restrict the source of pepsin, by defining it as “the digestive principle of the juice obtained from the mucous membrane of the stomach of the hog,” because Scheffer’s experiments proved that hog-pepsin possessed a higher digestive power than that of other animals which had been previously used for this purpose.

It may be accepted as a fact, which recent improvements in pepsin-manufacture have abundantly confirmed, that the hog-stomach is the most available source for ordinary pepsin supply, and that the pepsin thus obtained is superior in its power of digesting albuminoids to that derived, for instance, from the sheep or the calf. It is possible, however, that pepsin from the latter source may have slightly different properties, and in its physiological powers it may be not identical with that derived from the hog. This, indeed, might be inferred from the different functions each is called upon to perform,—one animal being a gross and omnivorous feeder, the other subsisting principally upon one form of food—cows’ milk. This being the case, it seems quite probable—nay, it is certain—that they would be adapted to different uses in therapeutics.

It should be borne in mind, in this connection, that the Pepsin Boudault, or Corvisart’s preparation, which first brought pepsin prominently into notice in this country, and caused the demand for the introduction of pepsin into the Pharmacopœia, was made from the stomachs of sheep. At the present time, in the European pharmacopœias, the gastric mucous membranes of the calf and sheep are acknowledged as a source of pepsin. The German Pharmacopœia also admits rennet wine as Pepsini Vinum Seriparum.

Calf-pepsin is obtained from the fourth stomach of the animal, the mucous membrane being washed, separated, and precipitated precisely as recommended by Scheffer in the case of the hog. He also proved conclusively that glycerin, or diluted glycerin, was the best vehicle to keep the ferment in the active form. It is admitted, since his researches were published, that a glycerite is to be preferred to any alcoholic preparation, since alcohol precipitates pepsin, and, even in a dilute form, very much retards and reduces its digestive power.

Owing to the habits of the hog, his food is often in a fermenting or incipient putrescent condition. In consequence of this, the best pepsin manufacturers only operate during the winter months, and even then exercise great care to obtain healthy stomachs in order to minimize the danger of introducing infectious material into the system of those for whom it may be prescribed. In the calf the case is entirely different. The milk is perfectly aseptic when taken directly from the udder. Milk is, at first, the only nourishment of the calf, and its stomach secretes a gastric juice physiologically designed to digest this particular food. There is no reason for supposing that, as a rule, there would be contamination of calf-pepsin with bacteria or ptomaines, while it is reasonably certain that hog-pepsin is not rarely so contaminated. In the therapeutics of infancy this possibility should be well pondered, especially in connection with the necessity which is believed to exist for sterilization of the milk of bottle-fed children.

Since my first article upon this subject, published about a year ago, a number of prominent physicians in Philadelphia have given it a trial clinically, and have expressed their satisfaction with the solution of calf-pepsin in glycerin. Dr. S. Weir Mitchell, in a note to the writer, says: "I have used calf-pepsin with milk-cure cases, and been pleased with it." The writer has also employed it during the past year for patients with gastric catarrh, who were taking a milk diet, and in artificially-reared infants, in both of whom it seemed to possess decided advantages over the ordinary form of pepsin. On account of its property of converting glucose into lactic acid, rennet wine has been recommended as being especially adapted to the treatment of diabetes mellitus. If this should be true, the glycerite, being very much more active, should be preferred.

The special advantages of the pharmaceutical preparation, which I have named Glyceritum Pepsini Vitulini, or glycerite of calf-pepsin, might be summed up, briefly, as follows:—

1. It is a peptonizing agent of considerable activity.

2. It has a special action upon the casein of milk. (Its strength should enable one fluidrachm to coagulate a quart of cows' milk in less than ten minutes). It is, therefore, especially suited to patients on a milk diet, and for infants with apepsia.

3. It is clean and free from offensive odor.

4. It is palatable.

5. It agrees with the stomach. In cases where cows' milk alone has been found to disagree, the addition of a little calf-pepsin has been found to entirely overcome the difficulty.

6. It is especially applicable to digestive disorders in infants.

7. It is less likely to communicate disease than any other kind of pepsin now employed.

8. It is manufactured as readily and nearly as cheaply as hog-pepsin.

9. It preserves its activity for a long time without deterioration.

10. It is the form of pepsin to prescribe for those persons who have religious scruples or prejudice against using anything obtained from the hog.

In conclusion, I will say that great credit is due to Mr. W. H. Llewellyn, the pharmacist, 1410 Chestnut Street, Philadelphia, for his success in presenting to the profession such an excellent preparation, his long experience in making wine of rennet giving him special skill in this line. It is simple justice to state that the suggestion alone was mine: the practical details were entirely worked out by him.

218 SOUTH SIXTEENTH ST., PHILAD'A.

DRAWBACKS TO THE USE OF THE NEW ANTIPYRETICS.*

By DR. GOLDMANN.

THE effort to obtain substitutes for quinine has led to the discovery of a number of bodies belonging to the aromatic series which are cheaper and more powerful, and at the same time free from many of the phenomena of quinine intoxication. The introduction of these substances has noticeably coincided with the attainment of artificial or medicinal "antipyresis *sans phrase*." Manifestly, their antineuralgic and vasomotor (in brief, "nervine") properties, so superior to those of quinine, suggest new indications for their use, especially at a time when a dread of the older nervines has been excited by the increase of morphinism, cocaineism, etc. The pernicious abuse of narcotic medicines, so common in our nervous age, has driven us to seek apparently harmless remedies. Thus has arisen of late years a class of chemical products whose worth has been celebrated in hymns of praise, while their dan-

* Die neueren Antipyretica und ihre Schattenseiten. Von Dr. Goldmann.

gers have remained unknown or unmentioned. When the dependence of their activity upon individual chemical structure has been recognized, we are led to form a more sober estimate of their value as antipyretics. Most of the anodynes of the aromatic series are at the same time antipyretics, and a great part of these are also active nervines.

Their analgesic power is exerted especially upon the nervous centres, whence it results that all true antipyretics are also good antineuralgics, and it is, perhaps, as the latter that antipyrin, antifebrin, and phenacétin are now principally employed.

They are, for the most part, derived from chinolin and benzol, and we may say with tolerable certainty that all the new antipyretics spring from chinolin, anilin, or pyridin derivatives.

Chinolin, kairin, antithermin, and thermifugin have already finished their careers, and thallin also would have become obsolete were it not for its efficacy in gonorrhœa.

Pyrodin, more powerful but also more toxic than antipyrin, phenacetin, and antifebrin, could obtain but a brief trial. In repeated doses it gives rise to symptoms of poisoning due to hæmoglobinuria.

After Hoppe-Seyler had demonstrated the virulence of phenylhydrazin, the result of experiments with the acetyl combinations could cause no surprise.

There remained then but three preparations which could survive a searching criticism, and to whose interest an abundant literature testifies. A fourth, methacetin, need no longer be drawn within the range of discussion, since parallel experiments between methacetin and phenacetin have demonstrated the superiority of the latter to acetanisidin. Thus, since their introduction, antipyrin, antifebrin, and phenacetin, in the order named, have remained at the head of the antineuralgic remedies.

It should not be esteemed worthless, in a comparative study of these three substances, to draw from general literature illustrations of their effects in order to distinguish which is possessed of the least harmful properties.

Among these effects must be included chills, perspiration, collapse, cyanosis, vomiting, and other gastric troubles and cutaneous exanthems. It appears strange that, in spite of an alleged current of professional opinion adverse to the new antipyretics, their consumption should,

nevertheless, continually increase. This is manifestly due to the fact that, according to unanimous testimony, artificial antipyresis improves the subjective symptoms. Restlessness, sleeplessness, and the sensation of burning heat are alleviated, and these effects are not to be lightly depreciated.

That the use of antifebrin does not diminish is attested by its low price, which has, especially, enabled it to enter into competition with antipyrin. Prepared from acetic acid and anilin, it does not exhibit in its own form the well-known poisonous properties of large doses of anilin. Yet it often produces alarming symptoms, sometimes from the exhibition of small doses, and its use should be discouraged.

Comparative experiments have ascribed to acetanilid four times the power of antipyrin. According to other observations 0.4 to 0.5 gramme (6 to 7½ grains) of acetanilid is equal in efficacy to 1 gramme (15½ grains) of antipyrin.

Unlike quinine, it is tasteless and very cheap, so that it is well adapted for use among the poor. On the other hand, it has the disadvantage of being sparingly soluble in water, although this very disadvantage has favored its introduction. So rapid is its change within the economy that, were it freely soluble, even small doses would be violently toxic.

Like all antipyretics, antifebrin has been put to various uses. It is very efficacious in all varieties of neuralgia, in hemicrania, insomnia due to painful diseases, etc. It is a reliable remedy in articular rheumatism. In the fulgurant pains of locomotor ataxia it affords relief. Dujardin-Beaumetz has recommended it in epilepsy, but Fischer, upon the ground of his own experiments, denies any influence to antifebrin in that disease, and concurs with the opinion of Salm and Borosnoy.

Within the organism, according to Müller and Mörner, antifebrin is oxidized and in the form of para-acetamidophenol $\text{C}_6\text{H}_4\text{NH}_2\text{CO}_2\text{CH}_3$ combines with sulphuric acid prior to elimination.

While Dujardin has never detected antifebrin in the urine, Yvon has published a method for recognizing it; and Pauschinger, in describing a case of poisoning, alluded incidentally to an anilin reaction of the urine.

Great care is necessary in the recognition of individual sensibility. Weinstein regards it as prudent to order from 0.125 to 0.25 gramme

(2 to $3\frac{3}{4}$ grains), while Krieger advises never to administer less than 0.50 gramme ($7\frac{1}{2}$ grains), and thinks it better to begin with 0.8 to 1.0 gramme ($12\frac{1}{2}$ to $15\frac{1}{2}$ grains). Faust found from 0.5 to 1.0 gramme ($7\frac{1}{2}$ to $15\frac{1}{2}$ grains) necessary in migraine. Dulasczka considers the minimum dose of 0.20 gramme (3 grains) as not without danger. Sembritzky recommends to begin in women with 0.10 gramme ($1\frac{1}{2}$ grains), and if this prove ineffectual to increase the dose by degrees. At any rate, the dose should not be considered as rigidly fixed, since individual susceptibility to the drug differs widely. It is certainly desirable that it should be dispensed only by prescription, and that its promiscuous sale, whereby a person may now buy 10 grammes ($154\frac{1}{2}$ grains) for 20 pfennige (5 cents) should be strictly forbidden. At the present time we are only able to congratulate ourselves that in certain provinces the free sale of antifebrin by druggists is prohibited.

Although for awhile antifebrin excited a hearty enthusiasm, yet those physicians who had personally witnessed its ill effects began to fear the treacherous remedy, and medical literature is already full of cases of antifebrin poisoning. One symptom which disconcerted its discoverers was a noticeable cyanosis. This, in some patients, appeared upon the face and extremities. It was of various grades. Not infrequently a profuse perspiration was excited, with a fall of temperature. The sweating is at times sufficient to dampen not only the night-dress, but the bed clothing. Von Jaksch and Eisenhardt express themselves unfavorably in regard to the action of antifebrin. Demme witnessed digestive disturbances with vomiting after the administration of small doses to children. Leubuscher cannot absolutely recommend the remedy, since its long-continued exhibition cannot be looked upon as harmless. From the protracted use of large doses he has seen cyanosis, cardiac depression, and collapse that forbade its further employment. The origin of the collapse may be the sudden fall of temperature, whereby the heart is suddenly deprived of the stimulus of heat, and its activity and power are consequently lessened.

Since its influence differs in different individuals, collapse makes its appearance more promptly in some than in others.

Freund reports in the *Deutsche Medicinische Wochenschrift* that a young man, aged 29

years, had taken 6 grammes ($92\frac{1}{2}$ grains) of antifebrin within four hours. The symptoms of poisoning were an intense cyanosis and extreme rapidity of the pulse.

Another case was that of a woman who had learned of the drug through the *Berliner Lokal-anzeiger*. She had bought in a drug-store 25 pfennige ($6\frac{1}{4}$ cents) worth, and had taken the entire quantity (4 grammes— $61\frac{3}{4}$ grains—according to the apothecary) in two portions within a short time of each other. In about three hours she was seized with continuous vomiting, extreme weakness, and cold perspiration. A physician, who was called in the evening, found her unconscious, with closed eyelids and a face like that of a corpse. Powerful stimulants were employed during the entire night, and in the morning consciousness returned, with profuse sweating.

Meyer has published a similar case. A book-binder 38 years of age obtained from a druggist in Berlin, on account of hemicrania, 2 grammes (31 grains) of antifebrin, and in rather less than twenty-four hours 2 grammes more, taking each portion in one dose. Here, again, appeared the familiar symptom, cyanosis, and only after vigorous stimulation did this slowly disappear. The man remained weak for several days.

A girl, upon the advice of a friend, took 4 grammes ($61\frac{3}{4}$ grains) for the relief of hemicrania. She became unconscious, as cold as ice, cyanotic, and finally comatose, in which state she lay for three hours. The cyanosis remained for about twenty-four hours.

Pauschinger reports the case of a strong man who took, at intervals of one hour, 5 doses of 1 gramme ($15\frac{1}{2}$ grains) each. Cyanosis and severe diarrhoea followed, the passages being of a blackish-gray color. On the following day the temperature had declined to 35° C. (95° F.), and not until ten days had passed did the man regain his usual strength.

All the preceding cases depended upon the ingestion of large doses, and I have cited them as illustrations of the symptoms provoked. But in smaller, even medicinal, doses antifebrin may prove deleterious, as is shown by the following examples:—

A woman who suffered from severe attacks of migraine, instead of taking, as ordered, 1 powder of 0.5 gramme ($7\frac{1}{2}$ grains), had taken 2, and, an hour later, a third. After a short time she felt sick, things seemed black

before her eyes, her mucous membranes became blue, etc. Her extremities were white and cold. Her condition was extremely grave, and improved slowly upon stimulation.

Kronecker has seen unfortunate accidents and fancies that the substance has a cumulative action, since he administered to a youth of 19, within four days, not more than 1.60 grammes (24¾ grains). In this case, after the last dose had been given, there appeared a copious sweat and a threatening collapse. On account of the frequency of severe and even dangerous manifestations which may follow minimum and single doses, this author thinks that the use of antifebrin should be discountenanced.

Likewise Sembritzky saw profound collapse produced in a woman by 0.3 gramme (4½ grains) of antifebrin. In a second case, 0.10 gramme (1½ grains) led to free sweating and great depression. He cites 2 other cases, in which, respectively, 0.20 and 0.30 gramme (3 and 3¾ grains) could not be tolerated.

In a similar strain speaks Löwenthal, after he had seen a child of 21 months collapsed by a single dose of 0.05 gramme (¾ grain). He adds: "Had in this case 0.125 gramme (2 grains) been given, which is considered a safe dose for a child a year old, death would surely have resulted."

Finally, Quast reports the fatal case of a child whose father, instead of following directions and giving a single dose of 0.25 gramme (3¾ grains) in the morning, repeated the dose every two hours in order to hasten the cure. Quast, summoned in the evening, found the child cyanotic and in a profound collapse, and death soon occurred.

Antipyrin, at one time in danger of being supplanted by antifebrin, gained in reputation as the latter lost. It ran for awhile a triumphant course. People carried it in their pockets as a panacea. Every tolerably-educated person knew the name antipyrin. Apothecaries kept it in stock in the form of powders and pastilles, and sold it as a specific for every kind of headache. So great was the confidence in the remedy, and so convinced was the public of its harmlessness, that many dispensed it upon their own responsibility, even going so far as to make use of it as a prophylactic in order to be able to fulfill their social engagements.

Antipyrin is employed in all cases in which antifebrin has been found of benefit. It has

been especially praised in typhoid fever, and the apyrexia induced by it has been thought to have a favorable influence upon the course of the disease. It is a sovereign remedy in hemi-crania, and often has a wonderful effect upon the lancinating pains of locomotor ataxia. In croupous pneumonia it produces a decided improvement in the respiration and the general condition, without, however, any influence upon the local process in the lung. In acute and subacute articular rheumatism, especially in those cases in which salicylate of sodium has been of no benefit, it often acts as a veritable specific. According to many, it not only reduces the fever, but also relieves the joint affections. Other observers, as Bernheim, Simon, and Pusinelli, deny that it shortens the course of the disease, and have seen joints become freshly involved during the exhibition of the remedy. Its value in whooping-cough, also, has been variously estimated, for while Sonnenberger and Griffith mention it with praise, Schnirer, Heimann, and Mugdan consider it powerless. Not less divided is opinion concerning its worth in sciatica. Covarrublas recommends it upon the ground of the positive results which he obtained by means of quinine and antipyrin after all other agencies had failed. On the other hand, Hirsch reports unfavorable results from its subcutaneous injection in the case of a hysterical lady suffering from sciatica. The pain was not alleviated, but, on the contrary, greatly increased immediately after the injection.

Antipyrin is of no avail in intermittent fever or other variety of malaria. It is distinctly dangerous in true angina pectoris, since acute dilatation of the heart is always present and the drug may produce heart failure.

Germain Sée thinks that the subcutaneous injection of antipyrin relieves pain in the neighborhood of the puncture, without giving rise to the unpleasant after-effects of morphine. He concludes that this forms one of the most powerful and at the same time harmless methods of allaying pain, and one which may in many cases replace the injection of morphine. The injections themselves, however, give rise to severe pain, for which reason, of late years, cocaine has been combined with the antipyrin. At the point of injection there is often developed a gangrenous area the size of a mark-piece. Hirsch once gave a hypodermic injection to a hysterical lady who was attacked with

occipital neuralgia, and confesses that he shall not repeat the operation a second time in a hysterical person. Eight days passed before the pretended pain at the point of puncture disappeared. Injections are absolutely of no service in neuralgia superimposed upon a hysterical basis, or in neuralgia due to anatomical alterations in the central nervous system.

Although single doses of 4 grammes ($61\frac{3}{4}$ grains) have undoubtedly been given, and daily doses of 8 grammes ($123\frac{1}{2}$ grains) or more are not seldom reported, yet Pusinelli, Müller, and Drasche, in view of the great difference of individual susceptibility, advise us always to begin with not more than 0.5 to 1 gramme ($7\frac{1}{2}$ to $15\frac{1}{2}$ grains). Antipyrin may be recognized in the urine in an hour by means of the chloride-of-iron reaction. It is useful, however, to concentrate the urine to a small volume, and agitate it with ether, which removes the antipyrin.

Without regard to a group of really surprising consequences, the extended employment of antipyrin has been resumed solely on account of the alleged lack of those after-effects. This belief, however, as a number of new observations teach us, is erroneous.

Antipyrin quite often occasions vomiting and the development of cutaneous eruptions, which vanish when the remedy is suspended. With a rapid and extreme decline of temperature there often appears a very profuse perspiration, which may last for several hours. This is sometimes accompanied by a fall of blood-pressure. And this depressant action by no means corresponds to an abatement of the disease. As, on the one hand, antipyrin may reduce a fever-temperature as low as to 34°C . (93.2°F .), so, on the other hand, is this depression followed by a proportionate increase, and the temperature attains a higher degree than before the antipyrin was given. This contradiction may be manifested not only by free sweats, but also in shivers or actual chills. Collapse and cyanosis may also be added, and the condition become critical. Such cases have been reported by Huchard, Lutaud, and others. Lutaud saw the temperature sink to 35°C . (95°F .). Bielschowsky, who observed a case of collapse in a typhoid-fever patient, concluded that antipyrin could obtain no wide use in private practice. Löwe saw a child of 6 months old attacked, after the second or third dose, with cyanosis and collapse.

Not infrequently occur salivation and hypersecretion from the mucous membranes of the eyes and nose. The picture is very similar in this respect to that of iodine intoxication. In a case of articular rheumatism in which salicylate of sodium was badly borne, Brandenburg administered 1 gramme ($15\frac{1}{2}$ grains) of antipyrin. Very soon afterward all the teeth of the lower jaw began abruptly to ache, the patient had headache, splitting pain in and behind the ears. An excessive secretion escaped from the nose and ears. In order to convince himself that these manifestations were due to the antipyrin, he gave his patient a second dose of 0.60 gramme ($9\frac{1}{4}$ grains), when the whole train reappeared. Jennings observed in an elderly lady, who, on account of a rheumatic affection of the hands, took $2\frac{1}{2}$ grammes ($38\frac{1}{2}$ grains) of antipyrin daily, red spots appear on the arms on about the ninth day after beginning the use of the drug. The whole body was soon covered with similar spots, while the patient felt as if the interior of her body were filled with ice; at the same time the face and the eyelids were red and swollen. Conjunctivitis, rhinitis, and hoarseness were soon added. Another lady, who, on account of a rheumatic trouble was taking 5 grammes ($77\frac{1}{4}$ grains) daily, was suddenly seized with loss of memory and confusion of thought. In a third case swelling of the neck, a sense of suffocation, a cutaneous eruption, and excessive perspiration were produced.

Almost exactly such a case has been described by Sturge. Here, again, the patient was a lady, who, suffering from migraine, took a single dose of 0.30 gramme ($4\frac{1}{2}$ grains). Violent sneezing, redness of the eyes, and a flow of tears were the result. She had a feeling of suffocation, and was unable to lie down. There were severe cough, an abundant mucous discharge, a profuse perspiration, soon followed by an urticaria like rash upon the thighs. Berger reports a similar experience. A young lady took 1 gramme ($15\frac{1}{2}$ grains) of antipyrin for the relief of a headache. In a very short time she experienced a burning sensation in the œsophagus. This was succeeded by dyspnoea and tumultuous action of the heart. Finally occurred salivation and a flow of tears. The whole face was reddened and œdematous. The patient was so weak that she could scarcely raise her head.

Wingrave reports (*Lancet*, August 17, 1889) a case in which antipyrin was attended with

prejudicial consequences. The patient was a young lady, 21 years of age, for whom 0.6 gramme ($9\frac{1}{4}$ grains) had been ordered. Five minutes after taking the first dose she was attacked by a strange feeling of pressure within the chest and a sense of suffocation. Respiration was quickened and embarrassed. At the same time the left side became paralyzed. A few minutes later a bright rash appeared upon the entire body. The patient felt as if she were pricked with needles. A condition of exhaustion soon ensued, accompanied by an abundant cold perspiration and vomiting. The writer imputed the symptoms to the existence of an idiosyncrasy.

A communication to the Société Médicale des Hôpitaux relates an instance of poisoning in the person of a healthy young lady, 22 years of age, who had taken 1 gramme of antipyrin to ally a furious headache. Löwe cites the case of a 14-month-old child who, soon after the administration of a first dose, was thrown into a state of extreme excitement; incessant cries divided each paroxysm, vomiting supervened, and the frightened parents anticipated the death of their child. Jaccoud witnessed collapse follow the exhibition of $\frac{1}{2}$ gramme ($7\frac{1}{2}$ grains), although the drug had previously been well borne. Rapin mentions the case of a lady who had already taken antipyrin for sciatica with benefit. A repetition of 1 gramme ($15\frac{1}{2}$ grains) brought on vomiting with collapse, cyanosis, and an exanthem. This patient recovered upon the following day, but two others, who were afflicted with arteriosclerosis, died soon after taking the same dose (1 gramme). The reporter of the *Korr. Bl. f. Schweizer Aerzte* saw fatal collapse in a man 63 years of age, ill of pneumonia, one hour after 1 gramme of antipyrin had been given. Blore has reported a death after the use of 2.30 grammes ($35\frac{1}{2}$ grains), and three hours later of 1.15 grammes ($17\frac{3}{4}$ grains). In the case of two children, Israel observed hæmatemesis with convulsions and fatal issue after medium doses.

We may mention, finally, a case which is all the more interesting as it relates to the child of a well-known colleague, Dr. Tuczek, who closely watched the course of the disease and summarizes it in the following words: A strong and previously healthy boy of 4 years had, on account of whooping-cough, for three weeks taken 1.20 grammes ($18\frac{1}{2}$

grains) of antipyrin daily in three doses. Suddenly the child was seized with vomiting, after which he fell into a deep sopor. Epileptic spasms next appeared and at the same time a macular exanthem. The temperature was subnormal, the pulse slow and tense. On the third consciousness returned, the spasms became less frequent, and on the fourth day disappeared. Exhaustion continued for some days longer. However alarming these symptoms at first, their origin soon became manifest. They were evidently toxic, and every cause of poisoning could be excluded except antipyrin. The exanthem and the complete recovery also bore the same testimony. The whooping-cough subsided during the prevalence of intoxication symptoms, but with their disappearance it returned with increased violence.

From these examples and many others that might be adduced, the conviction must arise that antipyrin is a remedy not without danger. The assumption of idiosyncrasy cannot be maintained because the symptoms of poisoning are, in the main, similar. The Tuczek case, in particular, suggests that the substance may exert a cumulative action. The fact claims especial notice that it is not excessive, but medicinal, doses that provoke poisonous symptoms.

We are well aware that all poisons, such as metals and narcotics, which act upon the cerebral cortex, may give rise to unconsciousness and convulsions; but a cumulative action has only been determined in regard to certain substances, such as alcohol and absinthe. Latterly, cocaine has been ranged among these substances. It was sought in vain to substitute this drug for morphine. Cocainism is as pernicious as the morphine habit. The hope arose that a new substitute had been found in antipyrin. But a well-known French author early predicted, in the conclusion of his interesting discourse on cocaine, that a new addiction, antipyrinism, would arise as a consequence of the abuse of antipyrin.

The third antipyretic which remains for us to discuss is that described by Hinsberg and Kast under the name of acetphenetidin, and lately introduced into therapeutics as phenacetin. Acetanilid, discovered by Cohn and Hepp, served as its prototype, and a theoretical interest associates them; that is, the relation between chemical composition and physiological action. Phenacetin is a tasteless

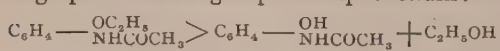
powder, insoluble in most medicinal vehicles. It is, therefore, inappropriate for subcutaneous injection. Its rapid absorption in the stomach is due to the fact of its ready solubility in lactic acid.

Phenacetin has a double therapeutic influence. It reduces temperature and allays pain. It surpasses antifebrin and antipyrin in its analgesic virtues. It possesses likewise a specific power in acute inflammatory rheumatism. As an antipyretic it is inferior to neither of the other substances of this class. As an antineuralgic, it is especially serviceable in hemicrania, occipital neuralgia, and neuralgic toothache.

Kater states that it is a specific in cerebral disorder due to excessive indulgence in alcoholic drinks. It is extremely useful in the lancinating pains of ataxia and in those of chronic neuritis. It is highly esteemed as a febrifuge, since, with the reduction of temperature, it induces a sense of well-being, which expresses itself in lively cheerfulness and talkativeness. Dr. Price, President of the Southern California Medical Society, extols it in the following language: "I have used phenacetin in many cases and have never been disappointed in its virtues, especially as an analgesic. I have the fullest confidence in its power to relieve pain, so that I often prescribe it without inquiring into the cause of the pain. If a patient tells me that he has a headache, I confidently order phenacetin, and am always told that it cures the pain."

Irwin and Heimann advise its use in whooping-cough, though Leubuscher denies that it exerts any influence upon the cause of that malady. Phenacetin is ineffectual against neuralgia dependent upon disease of the brain or cord. It often fails in chronic febrile disorders, a tolerance being established. An assertion of Mahnert should not be overlooked, viz., that phenacetin is effective in overcoming an addiction to antipyrin.

In the animal body phenacetin yields paraamidophenol or its acetyl combination as a decomposition product. No oxidation occurs, as is the case with antifebrin, but only a splitting up of the ether group of acetphenetidin:—



Upon this difference of chemical composition depends, perhaps, the weaker poisonous properties of phenacetin. More important,

however, than this theoretical view is a practical experiment lately undertaken by Dr. Hinsberg. He gave to a dog weighing $7\frac{1}{2}$ kilogrammes ($16\frac{1}{2}$ lbs. av.) 6 grammes ($92\frac{1}{2}$ grains) of phenacetin at a single dose. Scarcely any noticeable symptoms of poisoning were produced.

The dose of phenacetin varies from 0.3 to 1 gramme ($4\frac{1}{2}$ to $15\frac{1}{2}$ grains). One gramme ($15\frac{1}{2}$ grains) has the same effect upon animal temperature as 2 grammes (31 grains) of antipyrin or 0.50 gramme ($7\frac{1}{2}$ grains) of antifebrin.

Ott states that scarcely a case of reflex or other variety of peripheral neuralgia is unamenable to its influence, and that its after effects are merely an agreeable feeling of lassitude and drowsiness, which manifest themselves in most patients. Müller, however, reports a case of pulmonary tuberculosis and another of facial erysipelas which had been treated continuously with from 6 to 8 grammes ($92\frac{1}{2}$ to $123\frac{1}{2}$ grains) of phenacetin daily, and in which cyanosis occurred, especially alarming in the case of erysipelas. Mahnert saw urticaria of the face and breast develop in a nervous lady. Hirschfelder likewise has observed exanthems and, in a case of phthisis, subnormal temperature. A similar case has been described by Heusner. Valentin relates an instance of the whole body being covered by a rash. But he adds that the high value of phenacetin as an antipyretic and nervine is not impaired by these after-effects.

It often gives rise to excessive and annoying perspiration. Tripold, Rumpf, Perce, Heusner, and Kohler have observed this consequence, although, according to the last two writers, it is especially met with in those persons in whom a tendency to free sweating exists.

Hoppe witnessed chilliness and vertigo in a chlorotic young girl to whom he had given 1.25 grammes ($19\frac{1}{2}$ grains) of phenacetin. Incessant gaping, drowsiness, and hebétude were also present. The entire complex of symptoms vanished in a little more than an hour, some languor only remaining. He had a similar experience with a lady, 44 years of age, to whom he had given 1 gramme ($15\frac{1}{2}$ grains) on account of migraine. Here, again, chilliness and vertigo ensued. Heusner, also, has met with chills, nausea, and vertigo. Oeffinger has encountered an oedematous swelling of both lower eyelids, and of the fingers.

Jaksch speaks of profuse sweating in children, together with deep cyanosis and even symptoms of collapse. Tripold reports profound cyanosis of the face and hands. He was "inclined to look upon the cyanosis as an intoxication symptom due to phenacetin; yet it should be noted that cyanosis and methæmoglobinæmia manifested themselves after the antipyretic medication had been continued for five days; so that it is doubtful whether they should be ascribed to the phenacetin." Müller observed cyanosis in 2 cases that had been "flooded" with massive doses of phenacetin. Lindmann has published the case of a woman, aged 34 years, suffering from migraine, for whom he ordered phenacetin in 1-gramme (15½ grains) doses. The directions were that if the first

powder did not afford relief a second should be taken at the end of three hours. The first dose caused giddiness, tremors, and vomiting. Nevertheless, she took the second gramme. The sickness increased, the lips and cheeks became cyanotic, a feeling of anxiety and dyspnoea appeared. Thereupon Dr. Reitter remarks that Professor Rumpf recommends phenacetin as a safe and efficient antipyretic, devoid of evil consequences in the dose of 0.5 gramme (7½ grains) for adults and from 0.20 to 0.25 gramme (3½ to 3¾ grains) for children.

A conspectus has now been given of the drawbacks of the three most powerful new antipyretics of the aromatic series. It may be of interest to arrange these ill results in parallel columns:—

ANTIFEBRIN.

1. Cyanosis, vomiting, chills	(?)	(?)	Jaksch and Biro	Wien Med. Presse, 1887, Nos. 1 and 2.
2. Digestive disturbances, with vomiting . .	In children . .	Small doses . . .	Demme	24. Med. Bericht über die Thätigkeit des Kinderhospitals in Bern.
3. Cyanosis, weak heart, collapse	(?)	Contin'd large doses	Leubuscher . . .	Wien Med. Blat., 1889, No. 13.
4. Cyanosis, extreme acceleration of pulse .	Man, æt. 29 yrs.	6 gms. within 4 hrs.	Freund	D. Med. Woch., 1888, xiv, 41.
5. Vomiting, faintness, perspiration	Woman	2 gms. twice within short interval .	Doll	D. Med. Zeit., 1887, No. 72.
6. Cyanosis	Man, æt. 38 yrs.	2 x 2 grammes, 24 hours' interval .	Meyer	Therap. M. H., 1888, 259.
7. Faintness, ice-coldness, cyanosis	Girl	4 grammes at 2 dose	Fürth	Wien Med. Presse, '89, No. 16.
8. Cyanosis, blackish-gray diarrhoea	Strong man . .	5 hourly doses, 1 gramme each .	Pauschinger . .	Mün. Med. Woch., No. 19, '89.
9. Nausea, deep cyanosis	Woman	1 gramme; 1 hour later, ½ gramme	Brieger	Therap. M. H., No. 8, 1889.
10. Profuse sweat, extreme collapse	Workman, 19 yrs.	1.60 gms. within 4 days	Kronecker . . .	Therap. M. H., 1888, 427.
11. Collapse	Woman	0.30 gramme, dose .	Sembitzky . . .	Therap. M. H., 1889, 267.
12. Great depression	Woman	0.10 gramme . . .	Sembitzky . . .	Therap. M. H., 1889, 267.
13. Collapse	Child, æt. 1½ yrs.	0.05 gramme, 1 dose	Loewenthal . .	Therap. M. H., 1888, 428.
14. Cyanosis, grave condition	Child, æt. 5 mos.	0.25 gramme, 1 dose	Marechaux . .	Intern. Ph. Gen. Anz., 1889, Nov. 10.
15. Death	Child	0.25 grm. every 2hrs.	Quast	Med. Record, July 16, 1887.

ANTIPYRIN.

1. Collapse	Preg. woman .	0.5 gramme; 2 doses within 2 hours .	Huchard . . .	Union Méd., 169 and 172.
2. Collapse	Preg. woman .	2 to 3 grammes at a dose, hourly . .	Lutaud	Jour. de Méd. de Par., '87, 22.
3. Profound cyanosis, collapse	Child, æt. 6 mos.	(?)	Loewe	Therap. M. H., 1889, 169.
4. Salivation, pain in the ears	Adult	1 gramme	Brandenberg .	Kor. f. Schweiz. Aerzte, '88.
5. Rhinitis, conjunctivitis, intoxication symp.	Elderly lady .	2½ grammes, daily.	Jennings . . .	The Lancet, 1888, i, 8.
6. Loss of memory, confusion of thought .	Lady	5 grammes, daily .	Jennings . . .	The Lancet, 1888, i, 8.
7. Profuse sweat, feeling of suffocation . .	Lady	(?)	Jennings . . .	The Lancet, 1888, i, 8.
8. Feeling of suffocation, severe salivation, profuse sweating	Woman	0.3 gramme . . .	Sturge	Brit. Med. Jour., 1888, 243.
9. Dyspnoea, excited action of heart, salivation	Young lady .	1 gramme	Berger	Therap. M. H., 1889, 185.
10. Sense of suffocation, rapid respiration, left-sided paralysis, collapse, vomiting . .	Lady, æt. 21 yrs.	0.6 gramme in 1 dose	Wingrawe . . .	The Lancet, Aug. 17, 1889.
11. Cerebral symptoms, weakness of heart .	Child, æt. 10 yrs.	0.75 gm. every 3 hrs., 2 or 3 doses.	Müller	Kor. f. Schw. Aerzte, xviii, '88.
12. Extreme excitement, vomiting	Child, æt. 14 mos.	1 dose (1 gramme) .	Loewe	Therap. M. H., April, 1889.
13. Ex. excitement, vomit'g, collapse, cyanosis	Lady	1 gramme in 1 dose	Rapin	Rev. Méd. de la Suisse.
14. Epileptic attacks	4-year-old boy	1.20 grammes daily.	Tuczek	Berl. klin. Woch., 1889, 373.
15. Death—patients had arterio-sclerosis and angina pectoris	Adults	1 gramme	Rapin	Berl. klin. Woch., 1888, 373.
16. Fatal collapse	Man, æt. 63 yrs.	1 gramme	Rep. of Schweiz. Korresp. Bl.	D. Med. Zeit., April 11, '89.
17. Death	(?)	2.3 gms. and 1.15 gms.	Blorc	Virchow-Hirsch Jahrbücher, 1885, 4, 30.
18. Two deaths	2 children . .	Medium doses . .	Israel	Med. Chir. Cent., '89, No. 28.
19. Death	Boy	Medium doses . .	Posadski . . .	D. Med. Woch., '88, No. 37.
20. Death	Boy	Medium doses . .	Pusinelli . . .	D. Med. Woch., '85, Nos. 10, 11.

PHENACETIN.

1. Œdematous swelling of the limbs	Adult	3 x 1 gramme every 3 hours, and same person 4 x 0.5 gms.	Oeffinger . . .	Aerzt. Mittheil. aus Baden, July 31, 1889.
2. Profuse sweating, cyanosis, collapse . .	Children . . .	0.1 to 0.2 gramme .	v. Jaksch . . .	Wien Med. Presse, '88, 1 and 2.
3. Vertigo, tremors, vomiting, cyanosis . .	Woman	2 grammes	Lindmann . . .	Therap. M. H., 1888, 330.

Excluding the effect of heroic doses and considering only those which are ordinarily regarded as medicinal, we are led, from a study of the cases cited and the parallel tables, to the following conclusions :—

Antifebrin.—Individual susceptibility to this drug differs widely. Even the smallest doses are capable of giving rise to dangerous symptoms. Especial caution is necessary in using it among children. Its continued administration begets a cumulative action. Collapse, cyanosis, vomiting, and profuse sweating not infrequently result.

Antipyrim.—Neither may any absolute dose be stated of this substance. It also needs to be used with prudence among children. It also possesses a cumulative power. Exanthems, collapse, cyanosis, dyspnoea, vomiting, and excessive perspiration are often its effects. That death sometimes follows the exhibition of comparatively small quantities admonishes us to prudence.

Phenacetin.—Eruptions and copious sweats are not infrequently occasioned, the latter especially in persons predisposed to free perspiration. Cyanosis and collapse are of less common occurrence. It should be given cautiously to children.

If, now, we compare the activities and drawbacks of the three remedies, and especially the relative intensity of their effects, we must admit the superiority of phenacetin as an anti-neuralgic and analgesic. Without expecting it to take the place entirely of the other two bodies of which we have treated, phenacetin may well be preferred to them in many cases, especially in regard to the fact that it is less liable to create embarrassing and dangerous manifestations.

DEATH OF PROFESSOR TRELAT. — French surgery has met with another severe loss in the recent death of Prof. U. Trélat. He succumbed to an attack of infectious broncho-pneumonia, which carried him off within a few days. An orator of the first order, he was also one of the most brilliant and successful operators. His name, says *Le Progrès Médical*, will always recall the recollection of an ideal professor, — fluent, warm, lively, and attractive in delivery. He was removed "in the height of his power and glory, at that time when a man of science has earned the right of pride in an accomplished task."

FEEDING IN THE WASTING DISEASES.*

By EPHRAIM CUTTER, A.M., LL.D.,

M.D.; HARVARD, 1856, AND UNIVERSITY OF PENNSYLVANIA, 1857,

Author of Boylston Prize Essay for 1857 on "Under What Circumstances do the Usual Signs Furnished by Auscultation and Percussion Prove Fallacious?"; Corresponding Member of the Belgian and Italian Microscopical Societies; Honorary Fellow of the Society of Science, Letters, and Art, London; Principal Medical Department of Instruction of the American Institute of Micrology, etc., etc.,

AND

JOHE ASHBURTON CUTTER, M.D., B.Sc.,

NEW YORK CITY,

ON

FIRST SECTION: TUBERCULOSIS PULMONALIS, 100 CASES.

SECOND SECTION: THE FATTY AND FIBROID DEGENERATIONS, 50 CASES.

THIRD SECTION: MALE NEURASTHENIA, 50 CASES.

[The following is an abstract.]

First Section.—Statistics of 100 cases of consumption treated by food-plans to be hereafter described.

RESUME.

Series I.—Non-arrests, 21 cases.

(a) Cases that were not improved, 9.

(b) Cases that were on partial diet, or were too irresolute, or had bad surroundings, financial, climatic, etc., 12.

Series II.—Partial arrests, 39 cases.

(a) Cases that followed the treatment faithfully, 19.

(b) Cases that did not follow the treatment faithfully, 9.

(c) Cases that had bad surroundings, that died of pneumonia, etc., 11.

Series III.—Permanent arrests, 40.

(a) Tuberculosis, 32 cases.

(b) Pretuberculosis, 8 cases.

In 1880 the senior writer presented to the American Medical Association an article entitled, "The Salisbury Plans in Consumption," with the full text of 70 cases. To-day we come before you, not to laud or condemn Dr. Salisbury, but to simply give you in the concrete what has been brought before us in our daily work with consumption of the lungs, as we have attacked the disease believing it to be first and last a food disease; climate and other causes were considered as secondary; and therefore this contribution will be of the more value to this Committee of Dietetics.

Series I.—Non arrests, 21 cases.

(a) Cases that were not improved, 9.

* A report presented to the Committee of Dietetics of the American Medical Association at its Forty-first Annual Meeting, 1890.

Illustrative Case.—See Transactions American Medical Association, 1880, pp. 333-408, Case 7. "August 28, 1877. M. H. S., fisherman, Lanesville (Cape Ann, Mass.), aged 33 years. Father died of phthisis. Mother living; been sick two months. He states that he took cold and went out fishing. Was exposed and took more cold; except two attacks of typhoid fever was perfectly well before. General appearance bad. Cough is constant and severe. No hæmoptysis. No dyspnoea except on going upstairs. Severe pain in shoulders. Appetite poor. Bowels regular. Has lost flesh and strength. Night-sweats copious. Pulse weak. Hands shake badly.

"Physical Signs.—Dullness on percussion and crackling over right upper third front and lower third back; feeble inspiration, almost flat on percussion; no crackling, but the respiratory murmur was heard underneath. Inspection of the blood revealed spores and spore collects in abundance. Fibrin and mycelial filaments. Red corpuscles adhesive, sticky, irregularly massed, pale in color. Mr. S. went upon the treatment with quinine. It was his intention to come up from the Cape again, but he was unable to do so, and, despite the means used, he died not long after."

Remarks.—At that time it did not seem to the writer that his case was so hopeless. Still, his history teaches that one must not trust too much to first appearances. It is a disadvantage to see a patient only once. It was reported that he faithfully used the diet. It is well, however, to compare the case with some of the very sick ones that were cured, as noted in Series III. The lesson taught is simply that the physician should never refuse to take a case, and should never be too free in his promises of recovery.

(b) Cases that were on partial diet, were too irresolute, had bad surroundings, financial, climatic, etc., 12 in number.

Illustrative Case.—See Case 1, *loc. cit.* "Widow, aged 43 years, small sized, thin, anxious, and nervous. Asthmatic complication, old abscesses of the mediastinum, diarrhoea, dyspepsia, sleeplessness, severe cough, dullness on percussion, with constant crepitant râles over both upper thirds, front. Great dyspnoea at times. Abnormal valvular sounds of the heart. No albumen in urine. Altogether, the most distressed and suffering case of consumption I

had seen for some time. The effect of the animal diet, baths of mineral acids, and quinine was to relieve, in a measure, the night-sweats and abdominal pains. But the appetite turned against the animal food, and it would often be rejected by vomiting. She was obliged then to carry out the *régime* only partially, particularly as she laid all her bad feelings, distresses, and sickness to her food or medicine, and never to her disease. She suffered also greatly from prolapsus of the uterus, aggravated by the severe coughing. This case was not relieved by the special treatment recommended. The weakness of mind and body, induced by the presence of organic disease in the thoracic and abdominal viscera was too great to be reached by, perhaps, any treatment. Indeed, just here it may be stated that no pretension is made toward cure of any but one-third of the cases [this was in 1880; we now think that more can be cured, as see table], but to insure that proportion it is necessary to have the treatment strictly carried out. The present case was one in which there was really no hope, and only adopted as "a drowning man catches at a straw." It is thought best here to give simply the bad and good cases together, and let the reader judge for himself of the value of the data thus derived."

Series II.—Partial arrests, 39 cases.

(a) Cases that followed the treatment faithfully, 19.

Illustrative Case.—See No. 21, *loc. cit.* "Mr. W., aged 60; in 1874 had been consumptive for two years; his occupation was that of an overseer of an umber paint mill. He had, with a cough, marks of increasing debility, as loss of flesh, animation, and courage. There were marked dullness on percussion, crepitant and sonorous râles over the upper part of both lungs; the blood also presented fibrin filaments, marked spores. Several years since he lived upon animal-food diet; his wife faithfully prepared the choicest meats for him, and, what is more, has encouraged him in pursuing the uncommon diet. The case was rather unpromising at first, owing to its long standing and extent of the tubercle infiltration. He is, however (1876), comparatively well. Cough is hardly perceptible. The physical signs are still to be detected, but with less marked characteristics. He attends to his business as usual. Says he expected to die, in which expectation the community shared. The blood shows great

diminution in the foreign admixtures.— Still living, but very feeble, in 1879. In October he died."

Series II.—Temporary arrests.

(b) Cases that did not follow the treatment faithfully, 9.

Illustrative Case.—See Case 23, *loc. cit.* "Miss C., aged 22; residence, Cape Cod. Seen July, 1875; amenorrhœa, cardiac trouble, dullness on percussion in upper part of both lungs, expiratory râles in same location. Blood was full of evidence of disease, as shown by the enlarged white corpuscles, the spores, and filaments; she had been under the hypophosphites of lime and soda. She was put upon the strict diet and mineral-acid baths, and was removed to New Hampshire. She was thin in flesh and unable to walk an eighth of a mile from prostration under the necessary effort. For the next three months she was not herself thoroughly convinced of the utility of the measures now proposed; still, her friends were, and by means of their influence she adhered closely to diet and baths. Immediately there was an improvement in the cough, in flesh and strength, which continued. She walked 2 miles readily; returned home for a visit in November. Here the diet was abandoned; ate everything she liked, and took medicines; remained at home four weeks. She ran rapidly down, lingering till she felt 'she could not live two days.' Returning to New Hampshire, she improved but little. Remained there till April, 1876, when, being very much worse, she returned home to die. Died in 1878." This case shows the power of the system to resist the disease, even when not following up the treatment; this resistance ought to be more relied on.

Series II.—Temporary arrests.

(c) Cases that had bad surroundings, that died of pneumonia, etc., 11 cases.

Illustrative Case.—See Case 27, *loc. cit.* "In October, 1874, Mrs. —, a woman with a very young child, that especially cried by night and kept its mother awake, was very pale and thin, coughing severely and raising largely. There was diminished resonance on percussion, and crackling throughout the upper third of right lung. She adopted the diet and acid baths. In four months the cough was very slight. The physical signs diminished. Her softened lung-tissue dried up. The appearance

improved so much that a casual observer would have called her well. All the time she suckled her infant. Owing to the hard times she was obliged to relinquish her diet, and would not accept it as a gift. Immediately she began to fail, and died in the course of six months. The improvement in health kept pace exactly with the imposed diet. When she ate bread the cough returned; the expectoration was copious. The night-sweats re-appeared. This shows markedly the relation of animal food to consumption. It is well worth knowing, for if these things 'are done in the green tree what may be done in the dry?'"

Series III.—Arrests more permanent in character, and might be termed cures if occurring in other diseases.

(a) Tubercular, 32.

(b) Pre-tubercular, 8.

Illustrative Case.—See Case No. 53, *loc. cit.* "Mrs. Wall, Cleveland, O., June 21, 1877. Present condition: Suckling a four months' child. Active and doing her own housework. Looks like a person in ordinary health. Coughs occasionally. No sputa. A good-sized, rather flat-chested woman, 35 years of age. Chest: Dullness on percussion and cavernous respiration over left upper third, back. Dullness over the whole left back; elsewhere, normal. Blood: Inspection showed normal-looking blood. Red corpuscles not massed, are distinct, well defined, rouleauxed; no fibrin or mycelial filaments; white corpuscles not enlarged."

This report is more interesting when taken in connection with the following history: In February, 1865, Mrs. Wall had been sick in bed four months with the last stages of consumption. She was emaciated to a skeleton; weight, 60 pounds; usual weight, 130 pounds. Her physicians, who were regularly educated and skillful men, pronounced her left lung "gone,"—that is, riddled with tubercle that had softened and broken down in such a manner that the pulmonary substance was removed; had become useless, and, of course, they gave a decidedly fatal prognosis. There was at this time a great caving in or flattening of the antero-posterior diameter of the chest, due to atmospheric pressure conjoined with loss of lung-substance. At this time she came under Dr. Salisbury's care. The patient's mother caused the treatment to be faithfully and assiduously followed out. Im-

provement slowly followed. In four months' time she was able to be out of doors and visit the city. After a time she resumed her profession as school-teacher, and taught successfully for four years. Five years ago she married and has borne three children, all healthy and vigorous. She likes her meat diet best, lives on it, and works hard. The physical signs adduced show the marks of the ruin wrought in her lung, and also show the tremendous power of food in managing or in affecting the course of organic pulmonary disease, even in its third and hopeless stage. This history reads like fiction.

November, 1888, we heard from her that she had continued in good health. A beef-eater.

Illustrative Case (Unpublished).—A young man. Cavities in both lungs. Heart enlarged. Emaciated as badly as preceding case. Profuse hæmoptyses. Elastic and inelastic lung-fibres in sputa. Blood-tubercular. Was treated very carefully on these plans. Was cured, *i.e.*, his cough ceased; the lungs healed; the heart regained its normal size; he took on flesh and strength; went through Yale College; was graduated with honors. Is well, and seen by us December, 1889.

Pre-tubercular Cases Treated that may Come Under this Head—Eight in Number—
Illustrative Case.—See Case 65, *loc cit.*
“In April, 1876, a young man, 18½ years, complained of feeling weak and listless. He had nocturnal and morning cough, with slight expectoration. He was pale, thin, and losing flesh. Consumption was hereditary in both sides of the family. There were no physical signs of pulmonic lesion. Inspection of the blood microscopically disclosed abundant signs of mischief, such as:—

Fibrin filaments were marked in character; spores and spore collections; vegetative filaments; white corpuscles much enlarged and too numerous; corpuscles pale, sticky; outlines not cleanly cut, aggregated. These, taken together with the history and the rational signs, induced a diagnosis of the pre-tubercular stage. Under the use of acid baths and strict diet the sanguineous and other signs began to disappear, so that in a year he was enabled to proceed to Germany and study music.

He has been a beef-eater, *i.e.*, eats more of it than people usually do; alive and well, 1890.

RATIONALE.

1. Tuberculosis is a systemic and not a local disease primarily.

2. Tuberculosis is a diseased condition or state due to the presence of a yeast in the blood with its fermentation-products.

3. The yeast is introduced into the blood through the alimentary canal from starch and sugar in excess, and in a state of fermentation.

4. The physical micrographical conditions found in the blood of tubercular cases constitute the peculiar morphology so often alluded to. The main features are as follow:—

(a) Spores of vinegar yeasts.

(b) Spore collects.

(c) Mycelial filaments of vinegar yeast; rare.

(d) Fibrin filaments unusually large and prominent.

(e) Enlarged massal white corpuscles. This enlargement proceeding from the white corpuscles being unusually fertile niduses of the vegetation, called entophytal, similar examples of which abound in algæ.

(f) Deprivation of the red disks of their coating of neurine, thus rendering them sticky, adhesive, and singularly inclined to aggregate themselves in confused masses. At the same time they lose their color, their clean-cut outlines, and are diminished in number relatively and absolutely.

(g) Thrombi formed of the fibrin filaments, of the corpuscles, of the spore collects.

(h) All of the foregoing have been photographed with Tolles's objectives, from the one-fourth to his one-seventy-fifth.

5. The vegetation may exist in a latent state.

6. It may be transmitted from parent to child in the milk, but the greater point of interest is in the tuberculous diathesis, produced by the same feeding in families for generations.

7. The morphology of the blood is commonly present some time during one year before organic disease. In other words, there is a new physical sign of the pre-tubercular state. The senior writer has a monograph on that subject alone, illustrated with many microphotographs.

8. Food, then, is the agent of tremendous power that causes tuberculosis.

9. The treatment is based on the idea of removing the cause by ridding the blood of

the presence of the yeast and its fermentative products by a process of starvation.

10. Tubercle is a secondary product, a result from embolism caused by the minute thrombi of fibrin filaments, of the massal corpuscles, and of the spore collects, and also from mechanical and chemical effects of the embolism on the nutrition.

11. The breaking down of the tissues comes from a necrosis caused by this overloading them with the products of fermentation.

12. The yeast is also found in the alimentary canal, on the skin, in the sputum, etc.

13. Flour has been raised into bread by the dejecta of third-stage consumptives.

14. The progress of the case is best watched and studied in the morphology of the blood. The spores are diminished, the filaments removed. The enlarged massal white corpuscles are reduced in size to normal proportions; the red disks acquire their normal color, covering, and clean outlines; the fibrin filaments are hardly visible. Thus the red disks dispose themselves in the normal manner the more perfectly as the cure proceeds. Any deviation in the regimen is indicated by the increase of the abnormal morphological elements in the blood. As the blood improves, usually the general symptoms improve, *pari passu*. We have often witnessed, under treatment, the disappearance of râles of all kinds, night-sweats, emaciation, the reduction of the heart to normal size and frequency of beats, simply because of taking away the load it had to carry, when the blood was filled with emboli, and was ropy and sticky.

15. This diagnosis by blood examinations does not exclude ordinary physical explorations: it supplements them. We find that the ordinary idea of this diagnosis in the profession is that hæmology is like urinology, and all that is necessary is to take specimens of blood, just as we do urine, and base all our diagnosis of tuberculosis on such examinations. The very suggestion of this demonstrates how far the proposer is from having a true idea of the subject. The evidence must be collected with the least possible interval of time between the removal of the blood from its stream to the stage of the microscope; the capillary circulation is to be used, not the venous or the arterial. Take blood from the radial or ulnar side of the forearm by slight puncture with scarificator or scalpel; do not prick the end of the finger;

the student must study the morphology of the skin as well as that of the blood.

16. There are other diseases in which the normal blood morphology is changed, to wit, rheumatism, cystinæmia, syphilis, ague, etc.

17. This *rationale* explains the cough where it is not due to local irritation in the air-passages, such as hyperæmiæ, ulcers, infiltrations, reflex irritations, to the presence of carbonic-acid gas in excess; sometimes it is wonderful how diminishing the fermentation in stomach does away with the cough.

18. This *rationale* explains hæmorrhages as the result of local action of the vegetation on the glue-tissues, the connective tissues being softened, disintegrated, and broken down by the products of fermentative changes.

19. It explains the night-sweats as due to the interstitial necrosis of tissues, thus throwing more work on the skin; hence the injunction to take good care of the skin and help the lungs while they are being healed.

20. The emaciation and loss of flesh and strength are only the results of the great tissue destruction going on.

21. The sputum must be studied for lung-fibres, for the various crystals that are found in asthmatic conditions, and also the gravel, granular and encysted.

22. Old-fashioned or fibrous consumption is due to holding of the yeast products in the stomach, to the gradual paralysis of the lungs, with the consequent hyperplasia of the connective tissues, and to the deposit of gravel in this hyperplasia of the fibrous tissues. In this condition the blood morphology is not so much altered. The diagnosis must be made on the general grounds. The treatment is practically the same, however.

23. The condition of the liver and kidneys can be determined by watching the urine; it should be tested at least twice a week, and kept at a specific gravity of 1015 to 1020, free from bile, odor, or deposit.

24. Physiologists say that man cannot live on beef alone; the chemist says that beef contains all of the elements found in the tissues of the human body. We say that in cases of consumption, Bright's disease, uterine fibroids, etc., where the special case has indicated a rigid diet of beef, such a dietary has been ordered, and some of the patients have lived on it alone for four years. Thus the *dictum* of the physiologist is upset.

25. It has been sneeringly said that all that was needed, if the ideas here given as to consumption are true, that a man prescribe beef and hot water; yet the senior writer had his son study the general sciences four years, medicine four more, and special cases three more years before he was willing to leave his practice in his care. The art of treating chronic disease, even by positive food-plans and judicious medication, is an extremely hard one to acquire.

26. Air is food. Yet consumptives have been cured in the rawest and dampest climates, and so many times that we must go behind the old idea that climate was the only cause of consumption. Granted that bad climate helps to cause the disease,—and so also will worry, trouble, grief, assist toward death,—the sending of patients away from home comforts to die elsewhere is not the thing to be advised. If home comforts, good air, and the proper food can be combined, by all means do it. This is written with the knowledge that pulmonary disease has been arrested by climate. But our aim is to cure the cases wherever they are, because many cannot afford to change their climate or to live the remainder of their lives in the Adirondacks or Colorado.

27. Remove from the atmosphere of the patients all doubters, sneerers, and those that argue, but never cure,—agnostics and nihilists, not content with helping no one, they will endeavor to pull down your work. More permanent arrests could have been secured of these 100 cases if the patients had been left alone.

28. While encouraging the patient at all times and in all emergencies, give him to understand what he is fighting,—that he must not waste his nerve-forces by needless thought and worry, but to hold on persistently and wait for nature to do the work. Each case is a law unto itself; this can be seen by the study of the cases herein recorded. We are finite; death is certain; no man will ever cure 100 per cent. of his cases, may we say, of any disease.

29. If all will take hold firmly, at least 50 per cent. of tubercular cases can be cured, judging from our own clinical experience. Now that consumption is called a curable disease, the great load is lifted off and much more will be accomplished.

30. All cases of pre-tuberculosis ought to be

cured, because here is a condition where there has been no destruction of tissue. This is where the exception to Section 28 comes in: if the practitioner will diagnosticate the condition, treat scientifically, and the patient obey orders.

31. All physicians who say these plans are foolishness, and who treat their cases by morphine, maltine, and whisky, we ask for publication of cases and percentage of cures.

32. The diagnosis of pre-tuberculosis by blood examination often negatively points out the seat of trouble to be in the heart or uterus, or, perhaps, some other organ; also, cases of uterine disease complicated with tuberculosis should not be allowed to go untreated, but in making examination the physician must go over the whole field and find out all of the disease. Some of the cases in this series, years ago, would have been benefited if their uterine disease had been treated. Granted the cause is systemic (for bad food is an etiological factor of uterine diseases), while treating systematically, use all of the modern means to attack the local pelvic troubles.

33. If men complain, and say this dietary is too rigid, we will only reply that the cases have demanded it, and will be very thankful when consumption can be cured by more pleasant means than we have employed.

34. Lastly as to Koch: In 1876 the morphology of consumptive blood was photographed with Tolles's objectives to the highest power, his one-seventy-fifth. These microphotographs have been exhibited here and abroad, and we find none that equal them. This is written advisedly.

Bacteriology is but an extremely small portion of the micrological world. Such algologists and phytologists as Prof. Paulus F. Reinsch, of Erlangen, and Dr. Fr. Ecklund, physician of the first class of the Royal Navy, Sweden, indorse this work as covering a much larger field than bacteriology does. If the proof was to be placed entirely on the results, then bacteriology must hold its head in shame, as no cures have been effected by it; but we are willing to controvert Koch on scientific grounds, and maintain the position that he has told but one-half the story; that botanists have been fighting for years as to whether bacteria were simply babies of the fuller-fledged vegetations; that the bacillus was photographed in 1876; that the ability to diagnosticate pre-tuberculosis

and tuberculosis by blood examinations, and the means thus afforded of watching the cases are worth immeasurably more than the diagnosis of consumption when the disease is apparent to all.

We are prepared to demonstrate the relations of bacteria to the alcoholic and acetic-acid yeast and plants by microphotographs.

(To be continued.)

ABSTRACTS.

AN EXANTHEM SIMULATING VARIOLA PRODUCED BY MERCURY.—Dr. Guelpa, in *Journal de Médecine de Paris*, relates the case of a primipara in whom $\frac{1}{2}$ -per-cent. sublimate solutions had been used as a vaginal wash, together with a mercurial ointment upon the abdomen, on account of transitory pain and fever. About two weeks after delivery a peculiar eruption appeared thickly upon the face. The spots were about the size of a lentil, red in color, and in some cases confluent. Some took the form of small papules. Most of them shaded into a bluish tint; this, and the unusual localization upon the face, dorsum of the feet and hands, and upon the forearm, caused them to resemble the pocks of variola. The eruption also occurred upon the chest and abdomen. When the sublimate injection was replaced by one of boracic acid, the rash promptly receded.—*Deutsch Med. Zeitung*, January 2, 1890.

A CASE OF MIXED INFECTION IN PHTHISIS. Dr. K. Thue, of Christiana, has published the following case: A young man of a tuberculous family was attacked by hæmoptysis. The pulmonary disease ran a rapid course. Tubercle bacilli could never be detected in the abundant muco-purulent expectoration. After death but few could be found, even in the cheesy masses which usually form such a rich soil for their growth. None could be discovered in the walls of the tubercular cavities, but, on the other hand, streptococci were met with in this situation as well as in the spleen, which was remarkably enlarged and softened. A culture demonstrated it to be the streptococcus pyogenes. That this fungus had played an important part in the entire disease process cannot be doubted. The author refers to the observations of Dr. Holst upon the relation of bacteria

to suppurative processes, in which three similar cases of mixed infection are described. The latter writer adds that acute phthisis may be regarded as a sort of pyæmia.—*Deutsch Med. Zeitung*, January 13, 1890.

CREASOTE IN DIABETES.—Creasote has been successfully employed by P. Valentin. In cases where glycosuria persisted in spite of Cantani's diet-system, Valentin administered creasote at first in doses of 4 drops daily, gradually increasing to 10 drops. The sugar soon disappeared and did not return, even when a diet containing starch and sugar was allowed.—*Deutsch Med. Zeitung*, January 27, 1890.

VENESECTION IN CHLOROSIS.—Wilhelmi, of Güstrow, in cases of extreme chlorosis, in which all ordinary means have failed, resorts to the cautious abstraction of blood, and obtains, as a rule, remarkably good results. The subjective symptoms are rapidly relieved, while the objective condition completely alters. He abstains from discussing the mode in which this surprising benefit is obtained, but promises a more circumstantial communication upon the subject.—*Deutsch Med. Zeitung*, Jan. 27, 1890.

PHYSIOLOGICAL ACTION OF PHENACETIN.—Dr. P. E. Livierato, of Genoa, as the result of numerous experiments, formulates the following conclusions: 1. Phenacetin, like other antipyretic substances, exerts a sensible influence upon tissue-change. 2. This influence is similar to that of antifebrin, and is shown especially in relation to the quantity of carbonic acid exhaled by the lungs. 3. Its influence upon the excretion of urea is not constant, for while in some cases doses of 4 to 6 grammes ($61\frac{3}{4}$ to $92\frac{1}{2}$ grains) caused a decrease of 5 or 6 grammes ($77\frac{1}{4}$ to $92\frac{1}{2}$ grains) in the daily output of urea, in others the same doses caused an increase of 9 grammes (139 grains) in the daily output. The same difference was observed in the effect of antifebrin. 4. The daily quantity (24 hours) of urine was reduced by phenacetin to 600 cubic centimetres (17 fluidounces), especially in the first days of its use. 5. The quantity of carbonic acid expired within a definite period was decreased. 6. The decrease of carbonic acid expired in a half-hour after doses of 3 or 4 grammes ($46\frac{1}{3}$ to $61\frac{3}{4}$ grains) amounted to from 8.906 to 17.623 grammes ($137\frac{3}{4}$ to 272

grains). Antifebrin, instead of diminishing, increased considerably the excretion of urea.
—*Deutsch Med. Zeitung*, January 30, 1890.

PYOCYANIC DISEASE.—This name has been bestowed upon an artificial malady cultivated in rabbits, and studied faithfully and minutely by M. Charrin. His researches cover a period of eight years, and are described in a work which he has lately published. The affection is due to the same microbe which occasionally produces blue pus in the human subject. In man this coloration is rather a curiosity than of any practical import, blue pus being no more harmful than ordinary "laudable pus." The tint depends upon the presence of the bacillus pyocyaneus, which secretes a blue coloring matter termed pyocyanine. Though inoffensive to man, the bacillus pyocyaneus generates in the rabbit a definite and fatal disease, our knowledge of which is almost entirely due to M. Charrin. It has given the author an opportunity of studying numerous questions relating to the pathogeny of infection. Pyocyanine is a crystallizable substance isolated by Fordos.

The question arises, Why choose for study a purely experimental affection instead of those infectious processes, such as tuberculosis, glanders, or septicæmia, in which man is directly concerned? The answer is that the pyocyanic disease possesses three important advantages for the investigator: (1) a pathogenic microbe, easily managed and recognized; (2) an animal (the rabbit) in which the disease develops with a variety of symptoms; (3) chemical substances produced by the microbe and active upon the animal. Consequently, the results derived from a study of this disorder are applicable to infectious diseases attacking man.

Among the questions upon which the study of pyocyanic disease has thrown light is that of the polymorphism of microbes. In its habitual medium the microbe of blue pus has the form of a bacillus. In other media, however, it changes its form. In certain cultures it is a spirillum, while in others it is a micrococcus, etc. Upon the addition of certain substances to its normal medium it even ceases to fabricate its coloring matter, notwithstanding which fact it continues to live and multiply.

The symptoms of pyocyanic disease in the rabbit are fever, wasting, albuminuria, diarrhoea, etc. But besides these, which are of a general character, it possesses one that is truly

pathognomonic, viz., a spasmodic paralysis, which cannot be confounded with any other form of palsy. If, by means of heat or filtration, the microbes themselves are removed from a culture broth in which they have flourished, the injection of the sterilized broth will give rise to the disease, with its distinctive paralysis. The soluble products secreted by the microbe and present in the broth are capable, therefore, of producing the malady in question. This discovery lends great support to the opinion that microbes in general act by means of their soluble products. Again, the inquiries of M. Charrin confirm the theory that the immunity acquired by a first attack of a disease is due to a survival in the organism of soluble products elaborated by the microbe. It is possible to render the rabbit unamenable to the pyocyanic disease by the injection of a certain dose of the soluble products contained in a culture of the bacillus pyocyaneus; in other words, to vaccinate with the soluble products. Is this analogous to what goes on in the bodies of infected animals? It would appear so, for the urine of these animals contains morbid substances and vaccine substances. Such urine, filtered and injected into other rabbits, may either provoke the pyocyanic disease or render the animal insusceptible to an attack.

Why is an infectious disease grave or benign? Judicious remarks upon this famous problem are found in the pages of M. Charrin's work. The routes by which a microbe penetrates the system, the manner in which a local disease becomes general or a general disease becomes local, the modifications in the nature of a disease as it occurs in different animal species, the continuance of symptoms after disappearance of the microbe, are all interesting and important questions, and concerned with infection in general. They have all been admirably discussed by M. Charrin according to the method and spirit of Professor Bouchard, in whose laboratory and by whose counsel the experiments were prosecuted.—P. LOVE, in *Le Progrès Médical*, August 31, 1889.

INDURATION OF PERIPHERAL VEINS.—M. Duponchel exhibited to the Hospital Medical Society, at the meeting of February 28, 1890, a patient whose peripheral veins were indurated and resembled atheromatous arteries. His attention had been drawn to cases of the kind since 1881, and he had met with a number of

cases. One of the kind had been shown to the Anatomical Society of Bordeaux by M. Bitot. As regards their nature they may be due to a periphlebitis or a chronic process analogous to atheroma of the arteries. Some patients have been of the arthritic diathesis; in others no cause could be detected. M. Bitot's patient was the victim of alcoholism, syphilis, and chronic malaria. This alteration of the veins might lead us to suspect that the pains of which some soldiers complain after exercise or horseback riding are real and not pretended.

M. Letulle had observed a similar condition in a case of advanced tuberculosis. M. Hayem, also, had seen it in marasmus. He had ascribed it to retraction of the vessels in consequence of the diminution of the total mass of the blood. In his cases there had been no pain. In the cases of M. Duponchel there had probably been diffuse periphlebitis.—*Le Progrès Médical*, March 8, 1890.

SINGULAR PIGMENTATION IN PREGNANCY.—

M. Tarnier presented to the Academy of Medicine, March 25, 1890, a pregnant woman, upon whose breasts, abdomen, back, and thighs were seen large patches of irregular outline and a very marked brown color. They appeared during the second month, and have increased. In her first pregnancy, also, similar spots had been present and had vanished shortly after confinement.—*Le Progrès Médical*, March 29, 1890.

PERTUSSIS ABORTED BY MEANS OF INHALATIONS.—Dr. Cesare Musotti reports the cases of two babies, one aged 16 and the other 3 months, attacked by whooping-cough. Inhalations were administered by means of a spray apparatus. Bromide of potassium in the proportion of a 10-per-cent. solution and benzoate of sodium in a 6-per-cent. solution were employed. The convulsive cough was rapidly relieved and a radical cure, it is said, was effected by the end of the fifth day. The same happy result followed in the case of his own child and that of a colleague.—*Giornale Internazionale delle Scienze Mediche*, February 28, 1890.

PRIMITIVE CARCINOMA OF THE RIGHT TONSIL, WITH SUDDEN DEATH.—M. Schmidt, of Versailles, reported to the Surgical Society of Paris, March 28, 1890, the case of a man, aged 72 years, in whom no hereditary tendency

existed. Since 1886 he had been afflicted with an angina, which persisted. The symptoms were pain, alteration of the voice, difficulty in swallowing and in breathing, diminished sense of hearing, and fetid breath. The tumor had attained the size of a pigeon's egg, when he died suddenly. This mode of termination has been described but twice. M. Schmidt thought that the fatal result might be attributed to syncope from bulbar anæmia or to detachment of a fragment of the tumor, which played the part of a foreign body.—*La Tribune Médicale*, April 3, 1890.

THE ANÆSTHETIC ACTION OF STROPHANTHINE.—This was the subject of a further communication* by M. Gley to the Biological Society of Paris, at the session of February 22, 1890. For some time past it has been known that the different varieties of sensibility may be disassociated. Tactile differs from thermic sensibility. Donaldson has shown that cocaine anæsthetizes the eye as regards tact and pain, but not as regards heat and cold, and this is a very elegant demonstration of the separability of different kinds of impressions. Mackenzie has made the same statement in connection with anæsthesia of the larynx by cocaine. Strophanthine and ouabaine are much more powerful local anæsthetics than cocaine, and the anæsthesia which they produce is total, including all varieties of sensibility. The feeling of heat and cold is the last to be extinguished and the first to be revived. Ouabaine, like cocaine, determines a slight opacity of the cornea and an augmentation of the intra-ocular tension.—*Le Progrès Médical*, March 1, 1890.

ERYSIPELATOUS BRONCHO-PNEUMONIA WITHOUT EXTERNAL ERYSIPELAS.—M. Mosny described to the Academy of Medicine, February 11, 1890, the case of a servant-girl who, after two days' attendance upon her master, suffering from erysipelas of the face, was attacked by pneumonia. From a bacteriological examination and cultures made under the direction of M. Strau, he had demonstrated the presence of colonies of streptococcus of erysipelas without mixture of any other organism. The case must be looked upon as one of primitive erysipelatous broncho-pneumonia.—*Le Progrès Médical*, February 15, 1890.

* See Medical Bulletin, March, 1890, p. 92.

THERAPEUTIC NOTES.

"Ointments and Oleates, Especially in Diseases of the skin":—

FORMULARY.

Take of Hydrochlorate of cocaine, . . . 4 grains.
Sulphate of atropine, . . . 1 grain.
Benzoin ointment, . . . ½ ounce.
Mix. For frost-bite and rosacea.

Take of Hydrochlorate of hydrastine, 5 grains.
Carbonate of zinc, . . . 1 drachm.
Benzoin ointment, . . . 1 ounce.
Mix. Use in seborrhœa, acne, and excessive sweating.

Take of Thymol, ... 5 grains.
Extract of nux vomica, . . ½ drachm.
Cantharides ointment, . . . 1 ounce.
Mix. Useful at times in circumscribed baldness.

Take of Carbolic acid, ... 6 grains.
Cantharidis ointment, . . . 1 ounce.
Mix. For alopecia circumscripta, and in obstinate cases of ringworm of the head and face.

Take of Creasote, ... 8 drops.
Calomel ointment, ... 1 ounce.
Mix. For acute sycosis, subacute eczema, erythema, and in secondary syphilis.

Take of Beta-naphthol, ... 10 grains.
Calomel ointment, ... 1 ounce.
Mix. Use in chancroids, syphilis of the skin, chronic acne, parasitic diseases of the skin, and in impetigo contagiosa.

Camphor Ointment.

Take of Subnitrate of bismuth, . . 1 drachm.
Prepared suet, ... 3 drachms.
Camphor ointment, ... 3 "
Mix. Serviceable in eczema and herpes of the lip.

Take of Calomel, ... 10 grains.
Beta-naphthol, ... 8 "
Camphor ointment, ... 1 ounce.

Mix. For eczema, especially of the head and face, and all irritable conditions of the integument.

Take of Lanolin, ... ½ ounce.
Red iodide of mercury ointment, ... ½ "
Mix. For scars and enlarged glands.

Take of Chian turpentine, ... ½ drachm.
Red iodide of mercury, . . ½ ounce.
Mix. Useful in old syphilitic spots and in obstinate cases of ringworm of scalp.

Take of Lanolin, ... ½ ounce.
Compound iodine ointment, ½ "
Mix. For scrofuloderma and syphilitic spots.

Take of Green soap, ... 1 ounce.
Compound iodine ointment, 1 "
Mix. Applicable for scars and old syphilitic sores.

Take of Subiodide of bismuth, . . ½ drachm.
Tobacco ointment, ... 1 ounce.
Mix. Useful at times in indolent ulcers, and fissured eczema around the anus.

Take of Extract of conium, . . . ½ drachm.
Extract of belladonna, . . ½ "
Tobacco ointment, ... 1 ounce.
Mix. For cancerous and bed-sores, and irritable ulcers.

Take of Creasote, ... 6 drops.
Carbonate of lead, ... 1 drachm.
Calamine ointment, ... 1 ounce.
Mix. Excellent for acute eczema, erythema, dermatitis, and herpes.

Take of Borax, ... ½ drachm.
Calamine ointment, ... 1 ounce.
Mix. For burns, excoriations, and acne.

Take of Extract of witch-hazel, . . 1 drachm.
Compound tar ointment, . . 1 ounce.
Mix. For tinea circinata, sycosis, chronic eczema, and psoriasis.

Take of Borax, ... ½ drachm.
Compound tar ointment, . . 1 ounce.
Mix. Use in lupus erythematosus, pemphigus, and sycosis.

Take of Iodol, ... ½ drachm.
Comp. sulphur ointment, . . 1 ounce.
Mix. For scabies or itch, and in tinea circinata or ringworm.

Take of Beta-naphthol, ... ½ drachm.
Comp. sulphur ointment, . . ½ ounce.
Mix. Useful in chronic psoriasis and in the thickened conditions of the integument.

Take of Lanolin, ... ½ ounce.
Boric acid ointment, ... ½ "
Mix. Employ in unhealthy wounds, ulcers, burns, warts, and in odorous sweating.

Take of Hydrochlor. of hydrastine, 6 grains.
Boric acid ointment, ... 1 ounce.
Mix. For acne, seborrhœa, and in subacute eczema.

Take of Ergotine, ... ½ drachm.
Comp. lead or brown oint., 1 ounce.
Mix. Use in acne, rosacea, acute eczema, and dermatitis.

* From advanced sheets, by John V. Shoemaker, A.M., M.D. Second edition. F. A. Davis. 1890.

Take of Lanolin, ... ½ ounce.
Comp. lead or brown oint., ½ "
Mix. For chronic eczema and chronic sycosis.

Take of Menthol, ... 10 grains.
Aconitine ointment, . . . ½ ounce.

Mix. For neuralgia of the skin and paræsthesia.

Take of Sublimed sulphur, . . . 1 scruple.
Carbolic acid, ... 5 grains.
Aconitine ointment, . . . ½ ounce.

Mix. Use in papular eczema, prurigo, and dermatalgia.

Take of Salol, ... 10 grains.
Glycerin of subacetate of lead ointment, . . . 1 ounce.

Mix. Use in erysipelas, erythema, blistered and abraded surfaces.

Take of Dried carbonate of sodium, 10 grains.
Hydrochlorate of morphine, 4 "
Glycerin of subacetate of lead ointment, . . . 1 ounce.

Mix. For dermatitis, burns, acute eczema, and erythema.

Take of Extract of calamus, . . ½ drachm.
Powdered arrow-root, . . . 1 "
Acetate of lead ointment, . . 1 ounce.

Mix. For scrotal eczema and eczema of the hands and feet.

PORRIGO DECALVANS.

M. Brocq prescribes the following local treatment for porrigo decalvans. After shaving the head the scalp is washed with hot soap and water. After epilation of the affected regions, they are washed with a $\frac{1}{500}$ or $\frac{1}{250}$ solution of corrosive sublimate. A few hours later the following ointment is rubbed in:—

℞ Hog's lard, ... 30 grammes.
Oil of sweet almonds, 4 "
Glycerin, ... 4 "
Hydrarg. vitriolatum, . . 1 gramme.

The sublimate lotions and the ointment are applied morning and evening. Epilation is repeated three or four times.

M. Brocq sometimes also uses the following lotion:—

℞ Water, ... 400 grammes.
Glycerin, ... 100 "
Corrosive sublimate, 1 gramme.

M. Vidal applies a lotion of essence of turpentine to the scalp, then tincture of iodide, and finally rubs a thick layer of vaseline over the parts, which are then covered with gum plaster or laminated gutta-percha. M. Lailler,

after epilation, applies frictions of the following preparation with a piece of linen:—

℞ Water, ... 950 grammes.
Glycerin, ... 50 "
Bichloride of mercury, 1 gramme.
Hydrochlor. of ammonia, 1 "

The linen which had been used for the frictions is placed on the head, which is then covered with a cap. The scalp is washed once a week. The treatment lasts from twelve to fifteen months. M. Besnier, after epilation, washes the head daily with warm water containing $\frac{1}{500}$ of boric acid and soap. The affected spots are rubbed every evening with vaseline, to which a very small quantity of acetate or sulphate of copper (0.50 to 1 per cent.) is added. If the scalp shows signs of inflammation, $\frac{1}{50}$ of boric acid is added to the vaseline instead of the copper.—*British Medical Journal*.

TREATMENT OF FLATULENT DYSPEPSIA (HUCHARD).

One of the best medicaments for this purpose is chloroform. But by reasons of its local and irritating action, we must not employ it in its state of purity or in capsules, as is too often done. The best way is to make use of saturated chloroform-water, after one of the following formulæ:—

℞ Saturated chlor.-water, 150 grammes.
Distilled water, . . . 120 "
Mint-water, ... 30 "

Take before or during each meal a teaspoonful of the above mixture, as well as the same amount of the following:—

℞ Sat. chlor.-water, . . 140 grammes.
Orange-flow. water, . . 150 "
Tinc. of badiane, . . . 10 "

In the following preparation the chloroform is associated with excitants of the gastric fibre:—

℞ Tincture of gentian,
Tincture of badiane,
Tinc. of nux vomica, āā 4 grammes.
Chloroform, ... 20 to 40 drops.

Filter. Take 10 to 20 drops in a little water one-quarter of an hour before each meal.

If we wish to employ powders, we may use the following formula:—

℞ Powd. poplar charcoal, 8 grammes.
Bicarb. of soda, ... 6 "
Calcined magnesia, . . . 4 "
Powder of columbo, . . . 2 "

Make 40 powders. Take 1 at least one-half hour, or one hour, before each meal.

If we wish to procure the antiseptic action at the same time, we prescribe:—

℞ Naphthol-B.,
Salicylate of bismuth,
Magnesia, ... 5 grammes.

For 30 powders. Administered as above.

Lastly, as an eupeptic, we make use of the following preparation:—

℞ Pancreatin,
Bicarbonate of soda (or
benzoate of soda),
Magnesia, ... 4 grammes.
Powd. nux vomica, ... 0.40 centigr.

For 20 powders. One at commencement of each meal.—*Le Bulletin Médical; Times and Register.*

LAXATIVE FOR CHILDREN.

℞ Manna, in tears, ... 50 parts.
Calcined magnesia, ... 10 "
Washed sulphur, ... 10 "
White flour, ... 30 "

To be made into an electuary, of which a teaspoonful or more may be given in a cup of weak tea or hot milk.—*La France Médicale; ibid.*

ANTIRHEUMATIC FRICTIONS (P BOA).

℞ Chloroform, ... 150 grammes.
Camphor, ... 30 "
Paraffin, q. s. to make 300 "

—*Revue de Thérapeutique Médico-Chirurgicale; ibid.*

THE EMPLOYMENT OF LITHIUM IN THE GOUTY DIATHESIS.

We know that lithium acts by its diuretic and dissolvent properties.

1. *Pills of Iodide of Lithium:*—

℞ Iodide of lithium, ... 0.25 centigr.
Extract of gentian,
Powdered gentian, āā q. s.

For 1 pill. Three or 4 daily.

2. *Potion of Iodide of Lithium:*—

℞ Iodine of lithium, ... 6 grammes.
Syr. of bitter orange-
peel, ... 200 "

Each tablespoonful contains 0.50 centigramme of the active substance. Dose: 2 or 3 tablespoonfuls a day.

3. *Cachets of Benzoate of Lithium.*—This formula contains twenty centigrammes of active substance to each cachet, with a dose of four to eight cachets a day.

Pills of Benzoate of Soda à la Lithine.—M. Huchard offers the following formula for gout with a tendency to chronic nephritis:—

℞ Ex. stigmates de mais, 6 grammes.
Benzoate of soda, ... 3 "
Carbonate of lithium, ... 3 "
Essential oil of anise, ... 3 drops.

Make 50 pills. Two pills at the beginning of each meal for twenty days of each month. The treatment to be continued for three years.

We may remark as to the necessity of adding to the above the use of alkaline mineral waters. —*La France Médicale; ibid.*

FOR ASTHMA.

℞ Etheris, ... 3j.
Sp. terebinthinæ, ... 3ss.
Acid. benzoic., ... 3ss.
Balsam. tolu, ... 3ij.

Misce. Place in a wide-mouthed bottle. The vapor is to be inhaled during the attack.—*Bull. Médical; ibid.*

POTION FOR LUMBAGO (HOLLISTER).

℞ Iodide of potassium, ... 15 grammes.
Bromide of potass., ... 15 "
Tinc. colchicum-seeds, 30 "
Syr. bitter orange-peel, 50 "
Distilled water, ... 150 "

M. Sig.: One teaspoonful three or four times a day.—*Revue de Thérapeutique; ibid.*

LOCAL ANÆSTHETIC.

℞ Cocaine mur., ... gr. 50.
Acid. boracic., ... gr. ij.
Liq. hyd. bichlor., ... ʒ 40.
Aquæ destil. ad ʒ 250.

Soak two rolls of cotton-wool well with the solution, holding them in position for about two minutes, then operate with warm instruments.—*DR. E. M. TOD.*

ENDOMETRITIS FOLLOWING ABORTION.

℞ Ex. opii aq., ... gr. vj.
Ex. belladonna, ... gr. ix.
Acidi borici, ... 3ss.
Ol. theobromæ, ... q. s.

M. et ft. suppos. (vagl.) no. vi.
Sig.: One at bed-time.

By the mouth she will take the following:—

℞ Ferri sulph. exsicc., ... 3ss.
Potassii bromidi, ... 3j.
Calumbæ contus.,
Zingiber. contus., ... āā 3ss.
M. et ft. chart. no. i.

Sig.: For 1 pint of boiling water. Let stand twelve hours, and strain. Take 1 tablespoonful in water after each meal.

Special attention will be paid to the bowels to prevent constipation.—*DR. WM. L. TAYLOR, in University Magazine.*

THE Medical Bulletin.

JOHN V. SHOEMAKER, A.M., M.D., Editor.
F. A. DAVIS, Publisher.
S. C. BERGER, Business Manager.

Philadelphia, June, 1890.

THE SURGICAL TREATMENT OF LOCAL TUBERCULOSIS.

THIS was made the subject of a discussion by the French Surgical Congress which assembled in Paris in October, 1889. Scarcely a topic could be selected more replete with interest and importance. The prevention or the arrest of this fatal infection, the removal of areas to which the morbid process may possibly be limited, are questions which merit and receive the anxious study of physicians and surgeons throughout the civilized world. If gland, bone, joint, skin, or mucous membrane be the seat of tubercular disease, what are the results of a total removal of the affected parts?

In the first place, as regards the immediate consequences, it is generally conceded that the patient recovers from the operation without peculiar delay or danger; but as regards the eventual success, there is more reason for doubt. It is difficult to follow up all histories, and learn, from a prolonged study of numerous cases, whether life is generally lengthened. It sometimes seems, as asserted by M. Verneuil, that the very ablation of a tubercular dépôt excites a rapid development of systemic infection. Though denied by some, the fact, we think, must be admitted. It remains to determine, however, the manner in which general contamination occurs. How can the total removal of a specific infectious neoplasm lead to constitutional involvement?

If antiseptic precautions are strictly observed there is no rise of temperature succeeding the operation, and recovery is as rapid among tubercular as among non-tubercular patients. If, however, fever unfortunately supervene, an attack of general tuberculosis is favored. M. Schwartz, of Paris, had operated upon 200 cases. This number included 20 amputations

and 10 resections of the knee. Out of this number he had seen but 3 cases in which general tuberculosis was lashed into existence, so to speak, by "a stroke of the whip" (*coup de fouet*). M. Mollière, of Lyons, testified that under antiseptic methods the results of operations among phthisical subjects are as favorable as in any other class. M. Bousquet, of Clermont-Ferrand concludes, after a careful examination of his own cases, that operations for local tuberculosis give rise to no complications. Even in cases where extensive incisions were required he had never witnessed generalization of the disease. He makes the additional statement, indeed, that, in patients whose lungs present decided evidence of tubercular lesions, not only was the pulmonary process not aggravated, but the general condition was even improved after the operation.

M. Demosthène, of Bucharest, declared that he had operated on a very large number of cases with an average mortality of 4.2 per cent. The immediate results have been excellent, and justified the operation. M. Terrillon believes that the Fallopian tube may be removed on account of tuberculosis with as much authority and as much chance of success as for ordinary salpingitis. The general condition of the patient, likewise, is benefited. M. Le Dentu approves of an early and complete intervention, and asserts that the results are happy, especially if the lesion is single. He calls attention to the alterations in the marrow of long bones in the vicinity of white swellings. He believes that it is not enough to resect or amputate the diseased articulation, but that it is often necessary to disarticulate at the neighboring joint. Hypogastric section has given him moderately good results in tuberculosis of the bladder. At any rate, the pain has been alleviated. M. Boeckel reported his statistics for amputations and resections practiced on account of local tuberculosis. From an examination of 204 cases he determines that, with the exception of the hip-joint, resections are less grave than amputations. He therefore advises the former operation to be chosen whenever possible.

It seems probable that though many, if not most, of the victims of local tuberculosis succumb at last to an extension of the disease, yet this consequence is seldom due to or hastened

by the operation. Surgical intervention should, consequently, be encouraged. This is in accordance with the general practice in the United States.

THE STUDY OF MAN.

"THE proper study of mankind is man," and while we all admit the force of the poet's line, yet each class of special students is inclined to modify, limit, or define the general statement. The physicist, chemist, geologist, astronomer, or naturalist will claim that a complete study of man must take into account his surroundings, by which he is so profoundly influenced. The nature and capability of man can only be fully appreciated by considering how far he has been able to discover the laws of nature, whether operative within his own person or in the external universe. The anthropologist seeks to ascertain the descent and relationship of different races and the evolution of culture. So intimate is the connection between thought and speech that to the philologist the greatest value attaches to the study of language and literature. The historian devotes himself to the description of the course of events which exemplifies the reaction of man upon man; while, again, the statesman, philosopher, or theologian regards the subject each from his own point of view.

The medical profession occupies a peculiar and commanding position in relation to the study of man. Devoted as the physician is, primarily, to the investigation of bodily structure and function, with the especial and practical object of being able to relieve disease, he soon discovers that his life-work forces upon him some attention to prevalent beliefs, habits, fashions, and delusions. The more sagaciously a physician can call upon the resources of his own and his patient's mind, the more complete and conspicuous will be his success. The alienist soon finds himself brought face to face with the profoundest problems of psychology. In this way the practice of medicine touches, more or less constantly and necessarily, upon the bounds of nearly every art and science.

"There is nothing new under the sun." The thing which has been is that which shall be. How often do these reflections rise in the mind as we contemplate the resurgence of old

doctrines and speculations. Antiquated superstitions are galvanized into a semblance of life, professed for awhile, laid aside, to be, perhaps, again revived in the future. The distinctive superiority of our age is the development of exact science. Yet not infrequently we are startled at the resemblance between certain scientific hypotheses of the present day and the "happy guesses" of a remote past.

One perpetual object of contemplation is the relation, or connection, which exists between material objects, immaterial thoughts, body and mind, and, in fact, between the conscious existence of man and the physical universe. Different phases of relation are exemplified in what we term proportion, number, and form. It was on account of its importance in the estimation and expression of relation that Pythagoras gave to the doctrine of number an important place in his system. In recent times embryology has taught us much as to the relation between different parts of the animal body, while the "comparative" sciences have added largely to our knowledge.

But the human mind soon becomes lost when dealing with abstractions. The relations existent between concrete objects may be studied and expounded, and the phenomena of consciousness are most positive realities. When, however, we are asked to consider number, life, mind, spirit or soul in the abstract, we soon range, as Locke said, "beyond our tether."

The seat of the soul is a world-old question. The brain is commonly regarded as the organ of the mind, yet even this belief has been challenged, and it is now claimed that mind is dependent upon the operation of every portion of the organism. Since the central nervous system is, with a few unimportant exceptions, connected with every part of the body, it is easily conceivable that the proper nutrition and function of these parts is essential to the manifestation of mind. Yet it seems fair to conclude that, though they influence, they do not functionally generate mental phenomena. But such speculations are rather metaphysical than scientific. They might readily be extended so as to include the influence of external nature in the production of mind. This has, in fact, been done by every system of pantheistic philosophy.

Confusion has perpetually arisen by the use of the same word in different senses by different writers. What do we mean by the word "think?" Does the supinator longus think, or is it conscious, when it contracts? Does the stomach think when the system hungers for food? Doubtless, the least important tissues—the nails, for instance—perform a beneficial function when they separate from the blood and store up in their structure those chemical elements of which they are composed. In this manner, in conjunction with the growth of the other tissues, the nails play their humble rôle in equalizing the chemical composition of the blood. In this sense the nails are concerned in the elaboration of mind. But this, however, is not the sense in which we usually speak of the generation of mind. We call the lungs the organ of respiration, but of what avail is the interchange of gases unless oxygen be selected and carried by the red globules to the tissues, or of what avail unless it be given up to the tissues? In a corresponding sense, then, the tissues might be considered as the organs of respiration.

In the study of any subject it is necessary to survey it from every side, and as minutely as possible. The more special a man's subject, the more accurate will be his knowledge of that subject. The less extensive, the more often can it be surveyed. This is seen in every department of life. The janitor of one of our medical schools, who for many years had spent a large portion of his time in cleansing, polishing, and articulating human bones, had acquired a very singular and exact knowledge. It is not, perhaps, going too far to say that, in minute points, his knowledge of those bones was more exact than that of a professed anatomist. So the geologist may sometimes obtain a hint from the miner, as the therapist does from the savage and the peasant.

The human face has always been an attractive object of study. In every age—and, we suppose, among every people—some attention has been given to physiognomy. It is said that Pythagoras was largely governed, in the selection of his disciples, by an attentive examination of their countenances. Hippocrates bestowed some attention upon the subject which we also find mentioned in the writings of

Galen. It is well known that Aristotle wrote a systematic treatise upon physiognomy. Every person relies, to some extent, upon his natural or acquired ability to read faces. We take the face as, in some sort, an index to the character. Nor are we alone in this, for how do dogs know their friends? Among modern writers the name of Lavater is best remembered. His "Physiognomical Fragments" were published 1775-78. Sir Charles Bell's valuable work on the "Anatomy of Expression" was written in 1804. Like every work of this distinguished author, it is full of wisdom and suggestion.

Nevertheless, though many attempts had been made to erect a system by which the disposition, tastes, and character could be accurately read, none had ever succeeded. Another effort has lately been made in a work* to which our attention has been called. The author aspires to locate in the principal regions and features of the face easily-recognizable signs which shall point the observer to the different traits of character. It is not surprising that the facial muscles should reflect mental states, since they are supplied by a cranial nerve. But the problem has always consisted in this, that, although an individual may have a "speaking countenance," yet its language has been found too general and vague. Pleasure might be read upon the countenance, but how should we learn whether the pleasure sprang from admiration of some noble deed or thought, or was simply of sensuous origin? The phenomena of hypnotism have abundantly illustrated the close connection between the features and the state of mind. An attention to physiognomy may often be of considerable service to the physician. The author believes that her system is capable of being put to practical use, and goes so far as to suggest that it may take part in the improvement of our race. She conceives that if the art of reading faces were to become general the selection of husband or wife would be more intelligent, and the standard of humanity would be raised.

This work is in two volumes, is written in an interesting style, and is profusely illustrated. The author displays a wide range of reading.

* A System of Practical and Scientific Physiognomy, etc. By Mary Olmsted Stanton. F. A. Davis, Philadelphia, 1890.

CORRESPONDENCE.

DELICATE ALKALOIDS AND HYPODERMATIC MEDICATION.

To the Editor of the Medical Bulletin:—

SIR: Last fall, while on a trip to Boston, I called on a patient, a case of fibrous consumption of some five years' duration, and found her suffering from intense gastralgia. The stomach appeared to be cramped into a small ball; did what I could for her by heat, but with no relief; said she could not use morphine. I then persuaded her to allow me to inject subcutaneously some morphia, atropia, and hyoscine hydrobromate. The effect desired was realized, and with no cerebral disturbances. The woman was a very sick one, with a close margin on death. Her family was intelligent, and, while I deplore the use of morphia, I know that pain kills, and therefore had them buy a good syringe, and showed them how to use it; ordered some tablets made of a reputable pharmacist, each to contain $\frac{1}{4}$ grain morphia sulphate, $\frac{1}{200}$ grain hyoscine hydrobromate, and $\frac{1}{200}$ grain atropia sulphate. The pharmacist, on delivering them, and being asked as to the trouble of making the triturate, said that it took but half an hour to dry them.

Soon after my return home, I was in the retail house of Fraser & Co., and told them of the formula I had used, and as to drying them in half an hour. They said to me: "We think it necessary to dry our tablets slowly for one day and a half; if too much heat is used, delicate alkaloids are injured." I therefore instructed them to make up some tablets of the same formula. Not long after I was wired to visit this same case. Found that she had been sick for two days. My diagnosis, on examination, was peritonitis. Their family physician had been using the tablets first made in very large doses, under the skin, and could barely keep her comfortable. I, however, found that, with the tablets dried a day and a half, I had to use but one half the dose that had been employed with the others, and with much more satisfactory results. To her abdomen were applied cloths wet in equal parts of alcohol and hot water. Death followed in fifteen hours.

The lesson to me was obvious; the patient's husband was grateful that his wife was made easy. I find, moreover, that this formula is satisfactory as an anodyne given hypodermatically, preventing cerebral disturbances, quieting those that have been almost maniacal with pain and sorrow; indeed, I think, in 1 case insanity was prevented. Of course this is nothing new as to hyoscine. Lately called to a patient who was suffering from a nervous explosion, headache, and nausea. Her husband feared

any medicine containing morphia, as his wife had a weak heart; I tried other medicines and means, but finally insisted that, if they wished me to relieve her, they must let me use my own means. One-half of one of these tablets sufficed to restore nervous equilibrium. This is not treating causes, and getting her heart and nervous system into proper tone; but I believe the function of the physician is to relieve pain as well as to cure systemic disease.

If "this testimonial proves a testimonial" to Mr. Fraser's care and painstaking in his work, I cannot help it. Our ethics are not wholly immaculate; if the section of materia medica and pharmacy was established in the American Medical Association, physicians and pharmacists could better work together.

Yours, sincerely, JOHN A. CUTTER.

NEW YORK CITY, May 7, 1890.

HALLUCINATIONS.

To the Editor of the Medical Bulletin:—

DEAR SIR: May I ask for the publicity of your pages to aid me in procuring co-operation in a scientific investigation for which I am responsible? I refer to the "Census of Hallucinations," which was begun several years ago by the Society for Psychical Research, and of which the International Congress of Experimental Psychology at Paris, last summer, assumed the future responsibility, naming a committee in each country to carry on the work.

The object of the inquiry is twofold: 1st, to get a mass of facts about hallucinations which may serve as a basis for a scientific study of these phenomena; and, 2d, to ascertain approximately the "proportion of persons" who have had such experiences. Until the average frequency of hallucinations in the community is known, it can never be decided whether the so-called "veridical" hallucinations (visions or other "warnings" of the death, etc., of people at a distance) which are so frequently reported are accidental coincidences or something more.

Some 8000 or more persons in England, France, and the United States have already returned answers to the question which heads the census-sheets, and which runs as follows:—

"Have you ever, when completely awake, had a vivid impression of seeing or being touched by a living being or inanimate object, or of hearing a voice; which impression, so far as you could discover, was not due to any external physical cause?"

The "Congress" hopes that at its next meeting, in England in 1892, as many as 50,000 answers may have been collected. It is obvious that, for the purely statistical inquiry, the answer "No" is as important as the answer "Yes."

I have been appointed to superintend the census in America, and I most earnestly bespeak the co-operation of any among your readers who may be actively interested in the subject. It is clear that very many volunteer canvassers will be needed to secure success. Each census-blank contains instructions to the collector, and places for twenty-five names; and special blanks for the "Yes" cases are furnished in addition. I shall be most happy to supply these blanks to any one who will be good enough to make application for them to

Yours, truly,

PROF. WM. JAMES,
Harvard University, Cambridge, Mass.

MEDICAL NEWS AND MISCELLANY.

Two cases of leprosy are said to be in Chicago.

DR. A. REEVES JACKSON sailed for Europe May 8th.

DR. ERNEST B. SANGREE has removed to 742 South Fifteenth Street.

WHEN dentists go into partnership they ought to pull together.—*Texas Siftings*.

DR. R. J. LEVIS continues to reside at his winter home, Tarpon Springs, Florida.

DR. M. L. HERR, of Lancaster, was in Philadelphia last month on a professional visit.

DR. JOHN T. HAMPTON sails, the latter part of June, for Germany, as a delegate to the Congress.

PROF. D. HAYES AGNEW has been very ill, but we are pleased to report that he has entirely recovered.

It is said that there is a woman living in Clarke county, Ga., who has never tasted water in her life.

MR. F. A. DAVIS, the publisher, has been on a tour to Florida, and has received a rest from his many duties.

DR. ROSA KERSCHBAUMER is the first woman licensed to practice medicine in Austria. She is said to be an uncommonly able oculist.

THE Southwestern Dispensary, during March, treated 102 medical cases, 118 eye and ear, 22 surgical, 36 nose and throat, and 8 gynecological: total, 286.

THE University of Pennsylvania and Jefferson Medical College received, respectively, the \$110,000 and \$50,000 by the will of the late George S. Pepper.

ELECTRO-THERAPEUTIC SOCIETY.—The first meeting of this Society in Philadelphia was recently held at the office of Dr. G. Betton Massey, 1706 Walnut Street.

PROF. WILLIAM PEPPER, the active and genial Provost and Professor of Medicine in the University of Pennsylvania, will sail for Europe, to be at the Congress, July 3.

DR. CHAS. E. SAJOUS, who has been on a tour to Florida, has departed for Europe for a much-needed rest, and to attend various medical meetings, including the Congress.

MANY physicians and surgeons have taken passage for Hamburg by one of the German steamers, to attend the Tenth International Medical Congress, at Berlin, August 4th.

NEW HOSPITAL BUILDING.—Charles Burns, the architect, has completed plans for the extension of the Medico-Chirurgical Hospital, between Seventeenth and Eighteenth, on Cherry Street.

A LECTURER upon physical culture has recently decided that "there is no rule for the size of a perfect foot."—*Ex.* What is the matter with a 12-inch rule?—*Boston Com'l Bulletin*.—*Puck*.

ACCORDING to the census of 1881, there were 131,618 lepers in all India. It is estimated that there must now be over 200,000 lepers in that dependency, most of whom roam about shunned by everybody.

SIR WILLIAM JENNER, the Queen's physician, is about to retire from London and live on his Hampshire estate, where he will make a collection of his writings, and perhaps do other important literary work.

DR. KING, physician-in-ordinary to a distinguished statesman of China, is an American woman. She has an extensive practice in Shanghai, and her surgical operations have attracted wide attention.

SANITARY CONVENTION.—The Fourth State Sanitary Convention of Pennsylvania convened at Norristown, Pa., May 9th and 10th. A large number of excellent papers were read and the discussions were very interesting.

PASTEUR has treated 7893 persons bitten by mad dogs in the past three years, and only 53 of his patients have died. The usual percentage of deaths among victims of mad dogs has been placed at 15.90; so it is seen Pasteur saved 1265 lives.

A SHARE COMPANY, with a considerable working capital, has been floated in England to work a patent for what is called "sterilization" of milk; that is, the destruction of the bacteria through which certain diseases, notably typhoid fever, are spread.

At the convention which is revising the Pharmacopœia, at Washington, Dr. H. C. Wood has been elected president; W. S. Thompson, D. W. Prentiss, J. M. Flint, A. E. Ebert, and J. W. M. Searcy, vice-presidents; H. A. Hare and G. H. C. Klie, secretaries.

ON THE MAJESTIC.—*Fair Sufferer*—"Oh, how I envy you, doctor! You are thoroughly hardened to this awful motion."

Ship's Doctor—"On the contrary, you should give me your sympathy, for I am more liable to see sickness than any one on board."

DR. JOHN V. SHOEMAKER, the editor of the BULLETIN, sails June 21st, by the Cunard Steamer "Etruria," for Liverpool. He will attend the meeting of the British Medical Association, to be held the latter part of July, and the International Medical Congress, at Berlin.

OPERATIONS ON THE PROSTATE.—Dr. William T. Belfield, 612 Opera-House Building, Chicago, Ill., U. S. A., respectfully solicits information concerning unpublished cases of operations upon the prostate, especially for the relief of the so-called hypertrophy of the organ.

A COMMITTEE, consisting of Professors Moleschott, Corradi, Cocconi, Guareschi, and Vitali, and Signori de Cesaris and Taconis, doctors of pharmacy, which was charged some time ago with the revision of the Italian Pharmacopœia, has almost completed its task. The revision occupied twelve years.

LATE in the evening a doctor received a note from a couple of fellow-practitioners, saying: "Pray step across to the club; we are one short for a rubber." "Emily, dear," he then said to his wife, "I am called away again. It appears to be a very serious case, for there are two doctors already in attendance."

DR. BROWN-SEQUARD maintains that to cut one's head off is an almost painless operation. You begin with your throat, and as soon as you have cut a little way into the windpipe all pain ceases, and you can go on and cut through the whole neck, with the exception of the spine, without being made uncomfortable.

THE MEDICO-LEGAL SOCIETY.—At the quarterly meeting, on the evening of April 29th, the following members were present: Drs. Hazel, Peltz, Stubbs, Connor, Stretch, Stewart, Nash, Martin, Mattler, Moore, Ziegler, Chandler, Jurist, Regar, McBride, Schoales, and Trau. Drs. Mecaskey, Lane, and Fitzpatrick were elected members.

LIGHTS ON A DARK SUBJECT.—*Teacher*—"Now, here's the word 'kidney' in the lesson for to-day. A kidney is one of the organs of the

body. Holcomb, you may give an instance illustrating the use of the word."

Holcomb (without a second's hesitation)—"We are going to have a new kidney in our church next Sunday."—*Puck*.

PROF. RUDOLPH VIRCHOW, who is equally distinguished as pathologist, anthropologist, and political leader, will enter on his 70th year on October 13th. The medical men and anthropologists of Berlin, with Professor Waldeyer at their head, are already taking counsel how fitly to celebrate the event. English physicians and men of science will no doubt wish to join in doing honor to one to whom honor is so conspicuously due.

ESTIMATE OF THE WORLD'S POPULATION.—The Mongolians lead with about 630,000,000, and the Aryans, who comprise practically all the people of Europe, four-fifths of those of the American continent, and all of the civilized residents of Australia, come next, with 545,000,000. The Negroes are put at 150,000,000, the Semitic people at 65,000,000, the Malays and Polynesians at 35,000,000, and the Indians of North and South America at 15,000,000.

At the Board of Health meeting, recently held, the Board of Education was directed to abate the nuisance of a leakage by sewage from an adjacent school-house into the Fifth and Race Street Station-house. Dr. William S. Shimer was appointed Vaccine Physician of the Eleventh District. A letter from Surgeon-General Hamilton, advocating a combined quarantine service, was read. Action was taken with reference to a number of nuisances.

It is expected that the number of medical practitioners taking part in the International Congress at Berlin this autumn will not fall short of 5000. In view of this large attendance the idea of a general banquet has been abandoned, and each of the eighteen sections will have its own special dinner at 10 shillings a head. The recently-established Berlin Laryngological Society will also entertain the members of the Section of Laryngology.

FIVE THOUSAND LEPERS IN NEW CALEDONIA.—It appears that leprosy is spreading in New Caledonia in a most alarming manner. Of 40,000 Kanakas no fewer than 5000 are described as suffering from the terrible disease. Till quite recently the public authorities had taken no measures to prevent it from spreading; but now two subordinate colonies have been created—one on Goat Island, in Dumbea Bay, and the other in Canala, at a spot known as the Pic des Morts. Every inhabitant recognized as a leper by the Medical Commission is to be confined in one of these leper colonies.—*Pall Mall Budget*.

THE INTERNATIONAL MEDICAL CONGRESS AT BERLIN.—In the Section of Pharmacology a discussion on Anæsthetics will be opened by Dr. Lauder Brunton, and one on the Pharmacopœia question by Dr. Langgaard. Addresses will also be delivered by Professors Binz, Böhm, Brackett, and Leibreich. A *souvenir* of the meeting will be presented to the members of the section in the form of a "conspectus" of all the German essays on experimental pharmacology which have appeared during the last twenty-five years.

HONORS TO MEDICAL MEN IN RUSSIA.—The Emperor of Russia has recently conferred the order of the White Eagle on Dr. E. Ettinger, Physician Accoucheur in Ordinary to the Imperial family; the Wladimir Order (Second Class) on Dr. Meinhardt, Physician to the Minister of the Interior; the Order of St. Stanislaus (First Class) on Dr. Paschutin, President of the Medical Council; Dr. Reyher, Surgeon to the Empress Marie Hospital, and Dr. Hohlbeck, Chief Physician to the Marine Hospital at Cronstadt; and the Wladimir Order (Third Class) on Dr. Kwizinski, Chief Physician to the Marine Hospital, St. Petersburg.

THE MECHANICAL TREATMENT OF ERYSIPELAS.—Wölfler has published 18 additional cases of erysipelas treated by pressure of strongly adhesive plasters. After the plaster is applied the disease extends into the compressed parts of the skin, which swell considerably and remain swollen for several days, and then both the swelling and the fever diminish. He recommends that, by way of precaution, a second line should be compressed several centimetres distant from the first. The part must be carefully inspected once or twice daily in order to detect any loosening of the plaster. Occasionally the erysipelatous inflammation extends in diminished intensity for a short distance beyond the first line of plaster, but this does not last long.

PENNSYLVANIA HOSPITAL.—The annual meeting of the contributors to the Pennsylvania Hospital was held last month in the hospital building, Eighth and Pine Streets. Mr. Frederick Fraley presided. The report of the treasurer, Mr. Henry Haines, showed that the receipts for the past year were \$292,600.25, all of which was expended except a balance of \$14,847.85. Of this amount \$121,467.85 was the cost of maintaining the Department for the Insane, in West Philadelphia, and \$67,470.62 the cost of maintaining the hospital at Eighth and Pine Streets.

The following were elected: Managers, Wistar Morris, Benjamin H. Shoemaker, Alexander Biddle, Joseph B. Townsend, Joseph C. Turnpenny, T. Wistar Brown, Charles Hartshorne, James T. Shinn, John B. Garrett, John W. Biddle, John T. Lewis, Jr., John S. Jenks; treasurer, Henry Haines.

ACTION OF COD-LIVER OIL.—MM. Gautier and Mourgues, in a recent communication to the Academy of Sciences, discuss at some length the reasons why cod-liver oil is superior to other fats as a therapeutical agent, and arrive at the following conclusions: 1. It is more easily assimilated, owing to its containing free fatty acids and some biliary matters, which render its emulsion specially easy when it comes in contact with the pancreatic juice. 2. It is rich in phosphates, phosphoric acid, lecithin, and phosphorus in organic combination; the phosphorus, especially in the last-mentioned form, is very readily assimilated to form protoplasm, and thus nutrition is greatly stimulated. The small amounts of bromide and iodine, being also present as organic compounds, exercise a beneficial influence on the general metabolism. 3. The alkaloids present—butylamine, amylamine, morrhaine—and morrhic acid stimulate the nervous system, increase the amount of sweat and urine, and act as nerve-tonics.—*Lancet*.

THE UNIVERSITY.—At the regular meeting of the trustees of the University of Pennsylvania the following changes were made:—

The Chair of Internal Pathology and Zootechnics was changed to Theory and Practice of Veterinary Medicine, and the Chair of Veterinary Anatomy to Veterinary Anatomy and Zootechnics.

C. Hartman Kuhn was elected a manager of the University Hospital. Donations were announced of \$5000 from Mrs. Bloomfield Moore to the Department of Hygiene; \$1367.50 from Professor Seidensticker for a German Library, contributed by a number of friends; \$2500 from C. C. Harrison for the current-expense account; \$1000 from the same donor for the Alumni Hall Fund; \$500 from Thomas Dolan for the Dynamical Engineering Fund; \$1135 from Mrs. S. V. S. Heberton; \$1000 from Burnham, Parry & Williams for the Hospital Deficiency and Repair Fund; and \$500 from the Allison Manufacturing Company to the Hospital Department.

The late Thomas Drake, of Philadelphia, left \$5000 to each of the following institutions:—

Christ Protestant Episcopal Church of Germantown.

The Germantown Dispensary and Hospital.

The Hospital of the Protestant Episcopal Church in Philadelphia.

The Hospital of the University of Pennsylvania.

Jefferson College Hospital.

The Children's Hospital of Philadelphia.

The Philadelphia Lying-in Charity and Nurse School.

The contributions to the Pennsylvania Hospital to be appropriated to the care of the insane.

The Pennsylvania Institution for the Deaf and Dumb.

The Pennsylvania Institution for the Instruction of the Blind.

The Forsythe School (southeast corner of Twenty-second and Locust Streets).

The Sheltering Arms of the Protestant Episcopal Church in the city of Philadelphia.

The Northern Home for Friendless Children.

MEDICAL SOCIETY OF NEW JERSEY.—The One Hundred and Twenty-fourth Annual Meeting of the Medical Society of New Jersey will be held at the Heath House, Schooley's Mountain, Tuesday and Wednesday, June 10th and 11th. The president, Dr. B. A. Watson, of Jersey City, will deliver the annual address. Subject: "A Historical Sketch of Surgery, Ancient, Mediæval, and Modern." The following papers will be read: "Does the Early Administration of the Salicylates in Acute Articular Rheumatism Prevent Heart Complications?" by Dr. E. T. Marsh, of Paterson; "Hydrophobia," by Dr. W. P. Watson, Jersey City; "Is Diphtheria Primarily a Local or a General Disease," by Dr. W. Selover, of Newark; "Endometritis," by Dr. E. L. B. Godfrey, of Camden; "A Few Rare Cases in Abdominal Surgery," by O. B. Gross, of Camden; "The Fellows Prize Essay," by Dr. H. Genet Taylor, Camden; "Fathers and Sons," by Dr. George T. Welch, of Keyport; "Permanent Membership," by Dr. Henry Mitchell, of Asbury Park.

The annual banquet of the society will take place at the Heath House on Tuesday evening, at 10 o'clock.

The following are the officers of the Society: President, B. A. Watson, M.D., Jersey City; First Vice-President, James S. Green, M.D., Elizabeth; Second Vice-President, E. T. Marsh, M.D., Paterson; Third Vice-President, George T. Welch, M.D., Keyport; Corresponding Secretary, William Elmer, M.D., Trenton; Recording Secretary, William Pierson, M.D., Orange; Treasurer, W. W. L. Phillips, M.D., Trenton. Standing Committee: T. T. Smith, D. C. English, and T. G. Ryerson.

ABDOMINAL AND PELVIC SURGERY.—Dr. Moreau R. Brown, of the Chicago Polyclinic, sends the editor the following communication:—

The recent special course in abdominal and pelvic surgery, by Drs. Senn, Fenger, Parkes, and Belfield, at this institution, seems to have met with general commendation among the physicians—127 in number—who attended. At a meeting of the class held at the completion of the course, the following resolutions, presented by Dr. E. P. Cook, of Mendota, ex-president of the Illinois State Medical Society, were unanimously adopted:—

"WHEREAS, We desire to give expression to our appreciation of the successful and satisfactory

manner in which the course has been conducted to its conclusion; be it therefore

Resolved, That we would hereby convey to the faculty and officers of the Chicago Polyclinic our thanks and appreciation of the discernment and skill that have conceived and executed a course demonstrative of the recent marked advances in the surgical treatment of abdominal and pelvic injuries and diseases.

Resolved, further, That we are under especial obligations to the several distinguished surgeons who, by their lectures and demonstrations, have made this, as we believe, the best course in advanced surgery ever delivered in this country.

Resolved, finally, That it is our deliberate conviction that we have here in Chicago and in the West every requisite in skill and knowledge among teachers, and in abundance of clinical material, to thoroughly qualify all who would engage in the profession of medicine and surgery."

The course will be repeated by the same lecturers, on a more elaborate and complete plan, next winter. MOREAU R. BROWN, *Asst. Sec'y*.

THE ORIGIN OF MAN AND ANIMALS.—The arguments drawn from the experimental facts of variation and natural selection, from the observed progression of animal forms in successive geological strata, and the like, seem to me quite inadequate to explain the development of insects, fishes, birds, mammals, from one stock. Consequently, to my own mind it is a relief to be able to think of several, and, if of several, then possibly of any number of original germs. The hypothesis is not opposed to, but quite in accordance with, Mr. Darwin's own views; in fact, he was far too cautious a man to dogmatize concerning the unity of the origin of living forms, when all attempt at the examination of the question of origin would necessarily carry him far beyond the limits of possible experiment. Let us then adopt provisionally the hypothesis of a multiplicity of germs of life; and if we do this, there is nothing wild or strange in the supposition that the germ of man was different from other germs. It would be beyond all that scientific caution would justify to assume that, given a number of original germs of life, it is matter of chance into what each will develop. It is contrary, I think, to the whole analogy of nature to suppose that a living germ, which is, to all intents and purposes, an ovum or egg, may ultimately develop into an oak, or a fish, or a man, according to its surroundings or according to mere chance. At all events, it is much more probable, much more according to analogy, that each germ should have its specific character, and that so man should have been man in intention and preparation from the very beginning of things.—From "Wallace on Darwinism," by

the LORD BISHOP OF CARLISLE, in the *Popular Science Monthly* for May.

THE WILLIAM F. JENKS MEMORIAL PRIZE.—The second triennial prize, of \$450, under the deed of trust of Mrs. William F. Jenks, will be awarded to the author of the best essay on "The Symptomatology and Treatment of the Nervous Disorders following the Acute Infectious Diseases of Infancy and Childhood."

The conditions annexed by the founder of this prize are that the "prize or award must always be for some subject connected with obstetrics, or the diseases of women, or the diseases of children;" and that "the trustees, under this deed for the time being, can, in their discretion, publish the successful essay, or any paper written upon any subject for which they may offer a reward, provided the income in their hands may, in their judgment, be sufficient for that purpose, and the essay or paper be considered by them worthy of publication. If published, the distribution of said essay shall be entirely under the control of said trustees. In case they do not publish the said essay or paper, it shall be the property of the College of Physicians of Philadelphia."

The prize is open for competition to the whole world, but the essay must be the production of a single person.

The essay, which must be written in the English language, or, if in a foreign language, accompanied by an English translation, should be sent to the College of Physicians of Philadelphia, Pennsylvania, U. S. A., before January 1, 1892, addressed to Louis Starr, M.D., Chairman of the William F. Jenks Prize Committee.

Each essay must be distinguished by a motto, and accompanied by a sealed envelope bearing the same motto, and containing the name and address of the writer. No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays if reclaimed by their respective writers, or their agents, within one year.

The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

ENGLISH AND FOREIGN DOCTORS.—A medical gentleman writes to ask me whether, in view of the fact that 2697 English medical men practice out of England, I think that all of them are incompetent? No, I do not. But what I do think is that a great many of them who take physicians' fees abroad would never get beyond a little parish practice in England, whilst not a few would not be qualified even for this. I cannot understand why these gentlemen should object to pass an examination in the country where they wish to practice. Either they know their

profession or they do not. If the former, they could easily pass the examination; if the latter, it is an advantage to the community that they should not practice. They will, perhaps, reply that they do not know the language of the country. Then let them learn it, so as to keep in touch with their foreign colleagues. As a rule, these foreign colleagues are, to say the least, as able professionally as our countrymen. The English doctors, however, charge about three times higher fees. English patients are silly, to my thinking, in paying these fees. If it be said that they want some one who can understand them, the answer is that there is hardly a town or watering-place abroad, where an English medical man practices, where there are not several native medical men who can understand English. Why, too, it is asked, should not the authorities of the foreign country be satisfied with an English degree? If this were the rule, then all foreign medical men with a degree would have to be admitted to practice; and it is notorious that many American degrees are absolutely worthless. Even in England, no medical man, with only a foreign degree, can sue for his fees. The distinction, therefore, which renders our medical men indignant when applied to them abroad is made here between the English and the foreign degree.—*London Truth*.

TUBERCULOSIS BY INOCULATION.—A fair number of cases are now on record in which tuberculosis has been caused by accidental inoculation. Thus, many "post-mortem warts" have been proved to contain tubercle bacilli, and a case occurred some time ago in Vienna of a porter who pricked his finger whilst sewing up the body of a patient who had died from phthisis, and upon whom an autopsy had been performed; tubercular nodules appeared on the porter's arm, which, on microscopical examination, exhibited tubercle bacilli, and he eventually died of milary tuberculosis. Another case of accidental inoculation is reported by Dr. Deneke, of Hamburg, in the *Deutsche Medicinische Wochenschrift*, of March 27th of this year. A child, aged 7 months, accidentally fell, its head striking and breaking a chamber utensil, into which the mother was accustomed to expectorate. The mother, aged 25, was found to be suffering from phthisis of the left apex, and tubercle bacilli were found in her sputum. The child, on being taken up, was found to have received three superficial cuts on the head; these were carefully cleansed with corrosive sublimate solution, and dressed at first with iodoform, and later with corrosive-sublimate compresses. The wounds healed in a week. Six weeks later the child was again brought to Dr. Deneke, who found that two of the scars were swollen and congested, and there was also a painful swelling

in the region of the left parotid. The two wounds on the head gradually broke down, and small ulcers formed. An abscess formed behind the left ear, starting from an enlarged gland; in the discharge from this abscess tubercle bacilli were found. The child improved temporarily, but soon became worse, and died four months later. At the post-mortem examination caseous glands were found in the neck, in addition to the abscess above mentioned. The bronchial glands were healthy, and only one of the mesenteric glands showed caseous change. Two tuberculous nodules were found in the spleen, but otherwise no signs of tubercle were found anywhere in the body; the lungs were healthy. This is an interesting case of tubercular inoculation. It is quite analogous to those cases in which infection has been received from broken spittoons, although it differs from these in that tuberculosis did not become general.—*Lancet*.

GURJUN OIL AS AN EXPECTORANT.—William Murrell, M.D., F.R.C.P., lecturer on Materia Medica at the Westminster Hospital, speaks as follows of gurjun-oil: "A few weeks ago, in a communication to the *Lancet*, I stated that at the suggestion of Dr. Walshe I had been using copaiba as a remedy for chronic bronchitis and winter-cough. I found that it was an excellent expectorant, but had this grave disadvantage—that in a large proportion of cases it brought out a rash attended with intense itching, and often accompanied with irritation of the throat, diarrhoea, and vomiting. To obviate this difficulty I endeavored to find some drug allied to copaiba which would exert the required action on the bronchial mucous membrane without affecting the skin. After one or two unsuccessful trials I thought of gurjun-oil, which at one time was extensively used to adulterate copaiba. Gurjun-balsam or wood-oil, as is well known, is a balsamic exudation obtained by incision and the application of heat from the trunk of *Dipterocarpus turbinatus*, and other species growing in the East Indies. It is a transparent liquid of the consistence of olive-oil, of an opaque, dingy, greenish-gray color, as seen by reflected light, and having an aromatic odor and taste not unlike that of copaiba, but without its acidity. Some years ago it was brought prominently into notice by Dr. Dougall, of the Andamans, as a remedy for leprosy, but seems to have attracted but little attention in this country. There is practically no demand for it here as a therapeutic agent, and it is a very inexpensive drug. I gave it first in doses of 1 drachm, and then of 2 drachms, three times a day, enough being ordered to last a week. I prescribed it in the form of a mixture, with liquor potassæ, spirit of nitrous ether, mucilage of acacia, and cinnamon-water. It certainly was not a very inviting com-

bination, especially as it had a tendency to 'curdle,' but it seemed eminently adapted for exciting a rash if the drug were eliminated by the skin. After a time I gave it mixed with extract of malt—2 drachms of the balsam to 1 ounce of the extract—three times a day, and this was taken without difficulty. The chronic bronchitics—many of whom had previously taken copaiba—reported that it acted admirably as an expectorant, 'clearing the chest' and easing the cough. In several cases I gave, in addition, tincture of jaborandi or nitrate of pilocarpine at bed-time, so as to produce profuse sweating, but no eruption resulted. My colleague, Dr. Colcott Fox, tells me that there are one or two cases of gurjun-rash on record, but I have not been fortunate enough to see one. It is true one patient—a woman—told me that the medicine brought out some spots, but they disappeared in a few hours, and increasing the dose failed to reproduce them. It seems to me that gurjun-oil has all the advantages of copaiba as an expectorant, without the grave disadvantage of exciting an eruption. It has been recommended as a remedy for gonorrhœa and gleet, but I have had no experience of its use in this direction."

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.—The programme of the Fortieth Annual Session (adjourned from June 4, 1889) to be held at Pittsburgh, June, 1890, is as follows:—

First Day.—June 10th, 10 A.M. The president, Dr. J. B. Murdock, will call the society to order; prayer; presentation of register of delegates, by Dr. W. B. Atkinson, secretary; address of welcome, by Dr. E. A. Wood, chairman of the Committee of Arrangements; report of programme; introduction of foreign delegates and visitors; report of delegates to the American Medical Association and other societies; report of permanent secretary; report of corresponding secretary; report of treasurer; report of Committee on Publication; report of medical examiners of county societies; report of Committee on Medical Education; appointment of Committee on Unfinished Business; unfinished business; new business; intermission at 12.30 P.M. 2 P.M.—Address on Medicine, by Dr. J. C. Wilson, Philadelphia; address in Hygiene, by Dr. T. J. Mays, Philadelphia; Cases of Labor (340), by Dr. J. M. Batten, Pittsburgh; Sarcoma of Choroid (case), by Dr. Wm. C. Bane, Pittsburgh; calling on counties for names of members of Committee on Nominations; Value of Measures over Medicines, by Dr. J. Madison Taylor, Philadelphia; unfinished business; new business; adjournment at 6 P.M. 8 P.M.—Address of the president, Dr. J. B. Murdock, in the Bijou Theatre.

Second Day.—June 11th, 9 A.M. Naming Committee on Nominations; address in Laryngology, by Dr. Wm. H. Daly, Pittsburgh; Diet in Therapeutics, by Dr. Solomon Solis-Cohen, Philadelphia; Trephining in Traumatic Insanity, by Dr. Samuel Ayres, Pittsburgh; Needed Legislation in the Treatment of Dipsomania, by Dr. T. D. Dunn, West Chester; report of Committee on Clinical Research, by Dr. John B. Roberts, chairman; report of Committee on Management of Pennsylvania Hospital for the Insane, by Dr. Samuel Ayres, chairman; unfinished business; new business; recess at 12.30 P.M. 2 P.M.—Report of Committee on Nominations; address on Surgery—The Relation of Bacteria to Practical Surgery, by Dr. John B. Roberts, Philadelphia; on the Intra-ocular Syringe in Cataract Extraction, by Dr. J. A. Lippincott, Pittsburgh; Management of Obstinate Dropsies, by Dr. James Tyson, Philadelphia; Chemistry of Cooking, by Dr. Traill Green, Easton; The Present Status of the Code of Ethics, by Dr. J. H. Packard, Philadelphia; The Value of Primary Anæsthesia from Æther (clinic), by Dr. J. H. Packard, Philadelphia; Prolapsus of Rectum in Children, by Dr. H. R. Wharton, Philadelphia; unfinished business; new business; adjournment at 6 P.M.

Third Day.—June 12th, 9 A.M. Address in Obstetrics, by Dr. Frances N. Baker, Delaware County; Rational Midwifery, by Dr. J. Milton. Duff, Pittsburgh; What Should be Required of an Abdominal Surgeon, by Dr. M. Price, Philadelphia; Suppurating Ulcer of Cornea, by Dr. Edward Jackson, Philadelphia; address, by Dr. O. H. Allis, Philadelphia; report of Committee to Revise the Constitution of the Medical Society of Pennsylvania, by Dr. Wm. M. Welch, Philadelphia, chairman; unfinished business; new business; recess at 12.30 P.M. 2 P.M.—Address in Mental Disorders, by Dr. Alice Bennett, Norristown; The Physiological and Therapeutic Action of Sulphur, by Dr. John V. Shoemaker, Philadelphia; The Application of Dry Heat by Steam, by Dr. G. M. Shilito, Allegheny; Errors of Refraction Developed by Loss of Accommodation, by Dr. G. H. Cline, Jersey Shore; report of Committee on Medical Examiners, by Dr. L. F. Flick, chairman; La Grippe, or Epidemic Influenza, by Dr. A. B. Braumbaugh, Huntingdon; report of Committee to Confer with State Committee on Lunacy, by Dr. H. C. Wood, chairman; report of Committee on Pharmacy, by Dr. J. W. Holland, chairman; unfinished business; new business; adjournment at 6 P.M.

Fourth Day.—June 13th, 9.30 A.M. Reports of committees; unfinished business; inauguration of president-elect; new business; final adjournment at 10.30.

THE POLYCLINIC HOSPITAL.—The Board of Trustees of the Polyclinic Hospital, at their last

regular meeting, created an additional Chair of Gynæcology, and elected W. H. Parish professor. Prof. W. H. Sudduth, M.D., D.D.S., was elected Professor of Pathology and Dentistry.

The Building Committee reported that contracts had been awarded for \$27,430, and that work on the portion of new building, Eighteenth and Lombard, would be completed prior to June 1st; that \$11,560 would be needed to finish the interior ready for occupancy in September. To meet this amount Mr. Theo. Kitchen, Mr. C. C. Roberts, John B. Roberts, and the Ladies' Aid Society started a subscription paper for \$250 each. A similar paper has been started for running expenses, and already fifteen names were down for \$150 each as an annual contribution.

To avoid the delay in waiting for money to be contributed, Mr. Charles B. Baeder offered to loan, without security, the amount necessary to push the new building on to completion without hindrance.

The treasurer's report showed:—

Cash on hand, ...	\$4,424
Invested funds, ...	5,680
D. R. J. testimonial free-bed fund, ...	3,580
Due from State, last installment, ...	2,500
	\$15,184
Liabilities for new building, ...	15,000
Maintenance, ...	2,000

The recent investigations of charitable institutions had stimulated the trustees to institute a most searching investigation into the minute details of the Polyclinic Hospital. The House Committee reported that it had weekly inspected every part of the present temporary building, and could not too highly commend the efficient services of Miss Emily Saunders, the matron, and Mr. J. Frank Speer, the apothecary.

The trained nurses in the wards proved themselves thoroughly efficient, and had, on several occasions, been commended by the staff of physicians.

The Ladies' Aid Society had been most efficient during the past three months by untiring devotion to the work of their society, by almost daily contributions of flowers and delicacies, and by sewing and preparing for the occupancy of the new building. A large amount of money is now in their treasury for the children's playroom, the children's ward, and the cripple bed.

The tea recently held at the Hotel Stratford for the benefit of the new-building fund, gave evidence of the zeal of the Ladies' Aid Society. The two large parlors on Walnut Street were resplendent with flowers and growing plants, and the beautifully-arranged tables, with candies, tea, coffee, and chocolate, were sufficiently tempting to accomplish the desired object of having each one of the vast throng of guests contribute.

The success of the tea is due especially to Mrs. E. P. Davis, who has inherited from her mother, Mrs. Gillespie, a wonderful talent for achieving success in entertainments of this kind.

The Reception Committee consisted of Mrs. C. C. Roberts, honorable president; Mrs. A. L. Massey, president; Mrs. Charles B. Baeder, vice-president; Mrs. H. Augustus Wilson, treasurer; Miss Mary E. Roberts and Mrs. S. M. Hynemund, secretaries.

Among those present were: Mrs. Gillies Dallett, Mrs. Thomas G. Hood, Mrs. A. B. Hazard, Mrs. James Hay, Mr. Theodore Kitchen, Mr. A. Manderson, Miss Ellen Phillips, Mr. James P. Scott, Mrs. William Snowden, Dr. Charles Hermon Thomas, Dr. C. B. Williams, Mrs. Peter A. B. Widener, Mr. George D. Widener, Miss Nellie Bachman, Miss Helen A. Baugh, Mrs. Charles B. Baeder, Miss M. Bower, Miss L. Bower, Miss Julia Berwind, Mrs. C. C. Bartol, Mrs. S. Solis-Cohen, Miss Sue Cooper, Mrs. Edward P. Davis, Miss Catherine E. Dallett, Miss Emily F. Dawson, Mrs. Stanley G. Flagg, Mrs. S. M. Hyneman, Mrs. E. Hood, Mrs. L. Hall, Mrs. H. F. Hansell, Dr. Katherine Kollock, Miss F. Kellogg, Miss H. Kellogg, Mrs. Theodore Kitchen, Miss Sophie Klose, Miss Elizabeth Loag, Mrs. Thomas J. Mays, Mrs. A. L. Massey, Mrs. S. S. K. Morton, Mrs. William E. McGill, Miss Kate Moyer, Miss Myra Moyer, Miss Mary Massey, Miss Mary E. Roberts, Mrs. C. C. Roberts, Miss Russell, Miss Ida Rose, Miss Jennie Rose, Miss Elvira Solis, Miss Thorn, Mrs. C. H. Thomas, Miss M. E. Wilson, Mrs. E. D. Woods, Mrs. H. Augustus Wilson, and Miss Rae A. B. Williams.

BOOK REVIEWS.

Modern Science and Modern Thought. With a Supplemental Chapter on Gladstone's "Dawn of Creation" and "Poems of Genesis," and on Drummond's "Material Law in the Spiritual World." By S. LAING. New York: The Humboldt Publishing Co., 28 Lafayette Place. Price, 15 cents.

In this short series of essays and observations we find much, though not directly medical, of great interest to medical men. Thus, in the first chapter, treating of "Modern Thought," we learn that there are approximately 3,600,000,000 of deaths of human beings in every century, of whom 720,000,000 died before the age of self-consciousness.

The Electric Light and the Storing of Electrical Energy. Illustrated. By GERALD MOLLOY, D.D., D.Sc. New York: The Humboldt Publishing Company, 28 Lafayette Place. Price, 15 cents.

The author of this interesting little monograph has succeeded in condensing and arranging this enormous and vital subject in a scientific and popular manner. Beginning with the history, he traces its subsequent development, both as to machines and inventors, the former of which are fully illustrated. One thing is brought out which it would be well for electricians to remember,—that the dynamo does not create energy, but converts mechanical energy into electrical energy.

The Modern Theory of Heat and the Sun as a Storehouse of Energy. Illustrated. By GERALD MOLLOY, D.D., D.Sc. New York: The Humboldt Publishing Company, 28 Lafayette Place. Price, 15 cents.

Heat, one of the forms or conditions of matter, is now recognized to be one of the necessary things of this life, and, by many, one of the inevitable of the next. Our author, however, is more practical, treating of latent heat as found both in liquids and vapors. The apparatus used in performing these experiments is shown by means of well-drawn plates.

Upon the Origin of Alpine and Italian Lakes, and Upon Glacial Erosion. By SIR A. C. RAMSAY, F.R.S., etc.; SIR JOHN BALL, M.R.-I.A.F.L.S., etc.; SIR RODERICK I. MURCHISON, F.R.S., D.C.S., etc.; PROF. B. STUDER, of Berne; PROF. A. FAVRE, of Geneva; EDWARD WHYMPER; PROF. J. W. SPENCER, PH.D., F.L.S. With an introduction and notes upon American Lakes, by J. W. SPENCER. Part I. New York: The Humboldt Publishing Company, 28 Lafayette Place. Price, 30 cents.

This subject, of great interest to the scientist and traveler, and set forth, in the first part, by the greatest foreign and domestic authorities, we think should be read by those tourists who, when first viewing the magnificent and awe-inspiring lakes and glaciers of the Alps, exclaim "What a revelation!" The work contains several maps, showing the course of the rivers and glacial formation. The chapter on glaciers we read with much interest.

Utilitarianism. By JOHN STUART MILL, author of "A System of Logic," "Principle of Political Economy," "On Liberty," etc. Reprinted from the ninth London edition. New York: The Humboldt Publishing Company, 28 Lafayette Place. Price, 15 cents.

"The Greatest Happiness Principles," or utilitarianism, while to many mere speculation and dreaming, is more real in these days, when pleasure is pursued as the end of life; but the pleasure must be equalized by periods of pain, excitement by tranquility, work by rest.

COMMERCIAL NEWS.

PHYSICAL EDUCATION.

Fortunately for those (and there are many such) who cannot leave the city at stated seasons for the purpose of exercise and recreation and the recuperation of their physical powers, provision is made in various ways to supply the want. There are various places of resort for gymnastic exercises, particularly for the male sex, and there are certain out-door sports in which they can engage, and which, by the way, is the best kind of exercise that can be had. But there are persons, invalids and others, of both sexes, who cannot get the benefit of out-door exercise, either in winter or in summer, and, indeed, whose physical condition is such as to require the superintendence of an intelligent instructor as to the amount and kind of exercise to be indulged in. For such persons an institution like the Natatorium and Physical Institute of Mr. Payne, on Broad Street, below Walnut, offers very decided advantages that should be made use of.

A visit to the Natatorium impressed us with its importance and usefulness. It is well adapted for physical training, is centrally located, and, what is of still greater importance, is in charge of a man who has the qualifications necessary to make the best use of the splendid means at his command for physical training. We would call the attention of our profession to this Institute, as one to which they can often recommend patients greatly to their advantage. Besides the ordinary gymnastics, swimming is taught to both sexes, and the swimming-bath is an unusually fine one. A visit to this institution would well repay the time and trouble.—*Medical and Surgical Reporter.*

INFANTILE CONVULSIONS.

I was called to attend a child with convulsions, age 14 months. When I arrived I found the child in one of the worst fits that I had ever witnessed, and I have seen thousands. I found the cause to be produced from congestion of the stomach. I gave 10 drops of Peacock's Bromides, and the child made a speedy recovery. After the third dose I gave a dose every three hours for twenty-four hours, then two doses every day for nine days. Child is now the healthiest of all the family. I also treated two other cases similar to this one with good results, and I can cheerfully recommend Peacock's Bromides.

J. J. JOHNSON, M.D.,
Davenport, Va.

GROSS POCKET CASE, cost \$16, will sell for \$10.50 cash. Very finest instruments; compact; used but once. Address "URGENT,"

Care MEDICAL BULLETIN,
1231 Filbert St., Philadelphia.

NUTROLACTIS.

From practical experience we have ascertained that this preparation, made from Galega Officinalis, Galega Apolenia, and Galega Tephrosæ, by the Roseberry Nutrolactis Company, of 18 Cortlandt street, New York, is a most efficient and reliable galactagogue. It has, in every instance, increased a scanty supply of mothers' milk to a full and nutritive abundance, and prevents the resort to artificial substitutes for feeding the baby.

The infant thriving, yes, laughing and growing fat, after resort to this valuable preparation by the mother. It is far ahead of any preparations of malt, or malt liquors, in increasing the supply of rich and nutritious milk.—DEERING J. ROBERTS, editor and proprietor of the *Southern Practitioner*, Nashville, Tennessee.

GLEET.

Safe and Valuable:—

R Kennedy's Pinus Canadensis

(white), ... I oz.

Listerine (Lambert), ... ½ oz.

Aquæ destil., ... 6½ oz.

M. Sig.: Inject thrice daily.

D. CONNER, M.D., Simpsonville, Ky., says: "I have used Celerina in my practice with very satisfactory results in nervous debility, and with good results in nervous headache, nervous prostration, and sleeplessness, giving tone as well as quiet to the nervous system. I regard it as a splendid nerve tonic. I have used it in spermatorrhœa with good results, and in a case of insanity it quieted the mental excitement and promoted sleep, and, as it is free from toxic effect, it can be used in doses to have the desired effect without any danger, which is more than can be said of some other medicines that are used as nerve tonics and sleep-producing agents. I can conscientiously recommend it as a valuable nerve tonic in all cases of nervous prostration."

THE MCARTHUR HYPOPHOSPHITE CO. appeal entirely to the reason and educated sense of the physician in their admirable advertisement on page 2. Their Syrup is a standard and reliable preparation. It is not a conglomerate mass of poly-pharmacy, as some others in the market, but embodies the valuable therapeutical properties of the Hypophosphites of Lime and Soda, without objectionable ingredients.

NEW YORK, N. Y.

After trying several kinds of type-writers, I had the pleasure to try the World Type-writer. Now, after months (twelve or more) of its use, I can truly say that words cannot express higher praise than it will bear nor a greater satisfaction than it has given me.

JAMES ROSS, M.D.,
669 5th Avenue.